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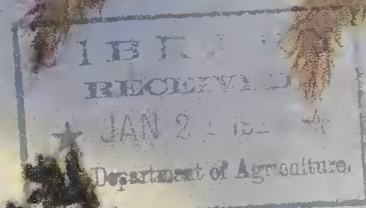
# AGGELER & MUSSEY

## SEED CO

### LOS ANGELES

F. C. McNabb  
Owner

62.09



SUNKEN GARDENS, EXPOSITION PARK, LOS ANGELES

## TWENTY NINTH ANNUAL CATALOG

60875

1922

MAIN 4545

A&M  
reliable  
SEEDS

A&M  
reliable  
SEEDS



# HOW TO ORDER BY MAIL

**YOUR NAME AND ADDRESS.**—Be very sure that your name and address are written very plainly on each order. We frequently have orders where either name is not given or address omitted. Also give plainly the R. F. D. number and box, or the street address. We acknowledge all orders by a post-card if not filled immediately. If such acknowledgment is not received, or if the order does not follow at once, write us about it.

**CASH WITH ORDER.**—The proper way is to send remittance in full to cover order and postage. We send orders C. O. D. only if 25% of the amount of order is enclosed. Plants we never send out C. O. D.

**ALL PRICES** are subject to price fluctuation and to change without notice. For this reason we ask you to write for quantity price. On vegetable seeds the price is usually fixed for the season and rarely is it necessary to change from the catalog, and the prices will be consistent with the market. You will be treated fairly.

**REMITTANCES** should be made by Post Office Money Order, Express Money Order, or by Check. For amounts up to one dollar, clean, unused postage stamps will be accepted. Coin should not be sent by mail. Checks on local banks may be sent, which will be a great convenience to many customers. Checks from outside the state of California will be collected before the goods are shipped. Therefore if you would avoid delay, send bank draft or postal money order. We do not accept responsibility for orders which never reach us.

**SHIPPING.**—We will use our best judgment as to the best way of sending orders when specific directions are not given. On large "prepaid" orders it is better to have them go by express, if your town is on a railroad—it is safer. We prepay express charges on merchandise quoted "prepaid." If special directions in shipping are needed, send them explicitly, and where express or freight office is different from post office, so state in space on our order sheet.

**SEEDS BY MAIL.**—We send by mail or by express prepaid, all orders for flower seeds, and for vegetable seeds up to ten pounds. We do not pay postage or express charges on onion sets, field seeds, clovers, grasses, bird seeds, tools or plants in large quantities; but we do pay them on other vegetable and flower seeds. Correspondents in foreign countries should add a sufficient amount for postage at the rate of 12 cents per pound.

**THE PARCEL POST APPLIES TO SEED.**—Postal rates are as follows. Owing to the convenience of having mail brought to your door by the rural delivery system, it is well to take advantage of the low rates.

20 pounds anywhere within the city limits of Los Angeles for 15c.

20 pounds three hundred miles 24c, and 1c for each additional pound up to 70 pounds.

Nothing heavier than 70 pounds may be mailed farther than 300 miles in one package.

The Eighth Zone includes Mexico and Canada.

**ZONE RATES.**—When it is required that postage be added to the purchase price of any commodity, note the distance you are from Los Angeles, see in which Zone you live. It is then easy to estimate the exact amount of postage required, or ask your postmaster.

**FOR PARCELS WEIGHING 8 OUNCES OR LESS**, containing seeds, bulbs or books only, the rate of postage to all zones is 1 cent for two ounces or fraction. (Over 8 ounces the parcel post rates apply.)

DOMESTIC PARCEL POST RATES				Insurance extra, 3c for each package up to \$5.00, 5c up to \$25.00, 10c up to \$50.00		First pound or fraction	Each Additional Pound or Fraction
On Seeds, Plants, Bulbs, Roots, Books, Tools, etc. within the U. S. and Possessions							
First Zone, Los Angeles and within 50 miles of Los Angeles						5c	1c
Second Zone within 50 to 150 " " "						5c	1c
Third Zone " 150 to 300 " " "						6c	2c
Fourth Zone " 300 to 600 " " "						7c	4c
Fifth Zone " 600 to 1000 " " "						8c	6c
Sixth Zone " 1000 to 1400 " " "						9c	8c
Seventh Zone " 1400 to 1800 " " "						11c	10c
Eighth Zone " all over 1800 " " "						12c	12c

**FOR PARCELS CONTAINING FOURTH CLASS MATTER**—other than the above—up to four ounces is permitted to all zones at 1 cent per ounce. (Over 4 ounces the above zone rates apply.)

**NON-WARRANTY: Note**—There are so many contingencies to be encountered in growing plants from seed and in setting out plants that are dependent on the weather and other conditions over which we have no control, that success in planting is not altogether dependent on the seed or plant. We will send out only seed which we believe will grow and produce the kind of plant and variety represented, but:

Aggeler & Musser Seed Co. give no warranty, expressed or implied, as to description, quality, productiveness, or any other matter of any seeds, bulbs, plants or trees they send out, and they will not be responsible in any way for the crop. If the purchaser does not accept the goods on these terms, they are at once to be returned.

## AGGELER & MUSSER SEED CO.



H. L. Musser  
Our President since our In-  
corporation in 1896

E. A. Aggeler  
Our Vice-President since our  
reorganization in 1905

W. B. Early  
Our Secretary Since 1905

F. C. McNabb  
Treasurer

# Twenty-ninth Annual Catalog of the Aggeler & Musser Seed Company

ESTABLISHED, 1893—INCORPORATED, 1896



Home of our Office, Main Store, and Mail Order Dept., 620  
So. Spring St. Floor Space, 20,000 sq. ft.

## Efficiency is the Aim of Our Employees

We are proud of our organization of seventy-five to one hundred employees. They are all enthusiastic A & M boosters striving to maintain the enviable reputation our establishment enjoys, and with the one thought of making Aggeler & Musser Seed Co., the greatest seed house west of the Rocky Mountains.

Department managers and assistants all co-operate to the fullest extent in rendering efficient service to A & M customers, and you will find on visiting any department or in writing for information that every effort is made to be courteous.

## Reorganization

There has been no change in the personnel of the Aggeler & Musser Seed Co., since 1905, when Mr. E. A. Aggeler and Mr. W. B. Early became associated with us.

With the issue of the 1922 catalog we are pleased to announce the entry into the business of Mr. F. C. McNabb, Louis Worthington and J. E. Farrow. These gentlemen are expert seedsmen and all, with the exception of Mr. McNabb, have been in the employ of the Aggeler & Musser Seed Company for many years and are well known to many of our customers.

Mr. McNabb is an experienced seedsman, having spent his boyhood days on his father's fruit and vegetable farm, and for twenty years has been actively connected with the growing and distributing of field, garden and flower seeds in the great southwest.

His accumulated knowledge of planting and growing conditions in the arid southwest further strengthens our organization.

With this young and energetic force added to our well organized business we will be all the more fitted to give better service to our customers.

It has always been our ambition to deal pleasantly with the trade, knowing that a satisfied customer is always a customer. We know that our extensive business was built up by giving reliable seeds, with reliable information and courteous treatment at the counter and in our correspondence.

## To the Newcomer or Beginner

Do not hesitate to take advantage of this offer to put at your disposal all the information we have accumulated during a period of twenty-nine years. Read this catalog carefully and if we fail to have answered your questions, do not hesitate to ask what you wish to know concerning agriculture.

We have gone to a great expense to put this catalog before you, feeling it is a duty to, not only have good seed, but to aid in every way possible that our seed may produce maximum results. We aim to have our catalog a source of education and our seeds a dependable source of wealth.

Read what others say of us:

"I am very much interested in your catalog. It is the best one of all I receive, and I have gained much information from it. (Signed) MRS. ERNEST F. BUGHIE, Hartford, Vermont.

"I wish to thank you for the 1921 catalog just received. It is one of the best I have ever seen—most complete in every department. Shall hope to use it early this spring.

(Signed) C. B. BEYER, Anaheim."

"Received my catalog last Monday; thank you very much. It is more than a seed catalog, 'a book of information' I would hate to be without. Always a customer.

"JOHN EVANS, Redlands."

"I received your 1921 catalog and it is the best ever. I have had your catalogs for the past fifteen years. They are worth their weight in gold to anyone planting a home garden or large acreage.

(Signed) G. A. ERBES."

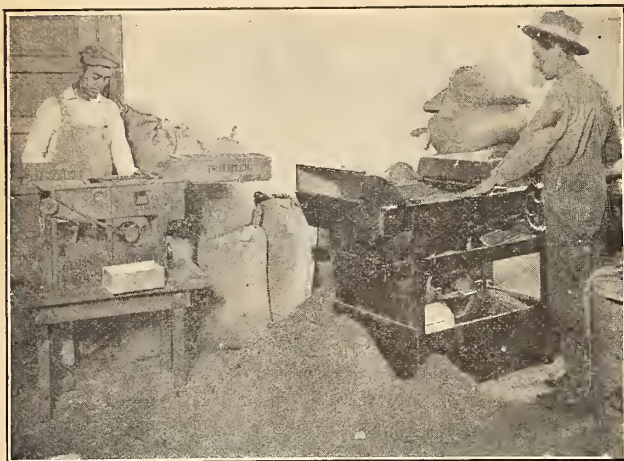


Our Warehouse and Mill at 1934 East 15th Street

Our new cleaning mill is equipped with the very latest machinery for cleaning all kinds of seeds. There is no excuse for unclean seeds going from our warehouse. If you receive such seed you do us a favor if you report at once, that the fault may be corrected before it passes to others.

At the rear of our warehouse we have a garden which is very valuable for trying out seeds for germination and type; also to demonstrate to our employees and customers the reliability of our seeds.





**SAFEGUARDS AGAINST CROP FAILURES**  
Mills of Every Size  
Cleaning Small Seed in the Stock Room

## Read This

A GOOD START WINS HALF THE BATTLE; so does GOOD SEED mean half the success. Many a good gardener will save seed from his best vegetables or melons thinking he will have the same good crop next season. But he did not notice that in his garden he had all varieties of vegetables growing in close proximity, and he is surprised to find that the seed from his best vegetables are producing mongrel crops. A professional seed grower avoids any hybridizing of kindred crops. That is why a reliable Seedsman must refuse to buy seeds except from expert seed growers. A Reliable Seedsman will know the pedigree of his seeds.

But the expense and loss connected with cleaning seed, making it pure, building up a high percent of germination by eliminating often as much as one-half, together with the expense of putting it into small containers for distribution, necessarily advances the cost. Reliable seeds are not to be compared with commercial seeds sold by mills, produce dealers, grocers and farmers for consumption. They are not expected to know one variety from another. Reliable seed is half the crop; the prices in this catalog are not too high.



## For Testing Seeds

We have with us a graduate from the agricultural college at Davis, whose duty it is to test all seeds when they come to us and again in six months a general test is made. You can write us at any time for a germination test on any seed you contemplate buying.

### Read

"I believe every seed that I got from you in the past and planted, came up and grew.

"GEO. H. SARVER, Calif."

"We found your seeds reliable and of excellent germination that we purchased from you last year.

"J. C. WARREN, Hanford, Calif."

"This is the first time I have ordered anything from your house, but if you come up to the recommendation of your friends, I am sure we will all be satisfied.

"H. K. DARLING, Calif."

"Every year we are well pleased with your seed; every row comes perfect.

H. K. OPPERMAN, Calif."

"Having used your seed for several years, I can't get along without them. Please send as soon as possible.

"MRS. C. M. NOAKES, Calif."

"I was for years a resident of Southern California, dealing largely with your firm, even while you were still at the old place at 115 North Main Street, and I always found your firm and your seeds reliable. Wishing you continued success,

"O. S. PINCKNEY, Calif."

## Some Reasons Why You Should Be a Successful Agriculturist

With Agriculture taught in the elementary schools, demonstrated by practical gardening. With students of the high schools doing actual farming in all its phases of agriculture, including animal husbandry and tractor work. With your county farm advisor at your call. Your State University offering free a six-weeks' course in agriculture or a course in any particular branch of agriculture. Or if you cannot spare the time to go to college, the education will come to you by correspondence.

Send to the University of California College of Agriculture, Berkeley, California. Ask for circular No. 113 entitled "Correspondence Courses in Agriculture" by W. G. Hammel.

This circular contains a list of Bulletins and Circulars on other subjects.

In addition to all this the United States Department of Agriculture offers you free of charge, literature on almost any conceivable subject in which you may be interested.

## Farm Bureau

As soon as you read this ascertain from your County Farm Bureau the fee for your county and become a member without further delay. You are missing something worth while. The Farm Bureau Monthly that comes to you free is worth many times the price of membership.

### WHY YOU SHOULD BELONG TO THE FARM BUREAU:

1.—Because you get more real agricultural education for your investment than from any other source.

2.—You can get it, when you want it, on any agricultural subject in which you may be interested.

3.—When insects are destroying your garden, when your plants are dying from disease, your farm advisor will tell you what to do.

4.—When your poultry or livestock are sick, consult your farm advisor.

5.—With the aid of the Farm Advisor you should have the best of everything, whether it be livestock or crops of any kinds.

6.—You can get advertising, and much assistance in marketing your crops.

7.—You are co-operating with approximately one million members of the American Farm Bureau Federation, all working to better conditions for the real farmer.

## Agricultural Journals

For a small annual subscription you may get the following Agricultural Journals, all published in Los Angeles, California, except the Pacific Rural Press:

California Cultivator, weekly; \$1.00 per year.

Farm and Tractor, weekly; a part of the Los Angeles Times.

The California Farmer, semi-monthly; \$1.00 per year.

Orchard & Farm, monthly; \$1.00 per year.

Pacific Rural Press, weekly; \$1.00 per year (San Francisco).

These Journals put before you in an interesting way all the agricultural news up-to-date. They publish reports of commodities which are highly instructive, and very often the information you need. Read them carefully and you will find in season many solutions to your daily trouble. The advertising columns may sell your products or show you where to buy.

Send at once for one or more of these journals; they are too valuable to ignore.

## Seed Catalog

You also have thrust upon you without cost the annual seed catalog which helps you out where all else fails. It tells you in a nutshell what to plant, when, where and how to plant it, and most important of all, your seed catalog tells you where to buy the most reliable seeds for each particular condition of soil, climate and market. There is positively no excuse for inefficiency.

## The Agricultural Department of the Chamber of Commerce

This department specializes in giving aid to the newcomer who, unacquainted with Southern California and local conditions, would buy a small ranch need only to apply to Dr. Geo. Clements, Sec'y. of the Agricultural Department of the Los Angeles Chamber of Commerce. You will then be guided aright, and may be saved the embarrassment of a costly mistake.

To the newcomer looking for a home, we advise you to consult or write the Agricultural Department of the Los Angeles Chamber of Commerce.

## Most Important of All

Attend the Fruit Growers and Farmers Conventions held somewhere during October each year. Also be sure to attend the Farm Bureau meetings.

## Do You Want This Catalog?

Be sure and send us an order for seeds if you want this catalog next year. If you do not send us an order your name is taken from our mailing list, believing you have changed your address, or you may have come to the store, where you can get a catalog at the counter. We prefer to have you on our list as an annual customer; then you will always get our catalog as soon as it comes from the press.

**WHEN YOU CHANGE YOUR ADDRESS NOTIFY US IF YOU WANT THIS CATALOG**



## Agricultural Courses by Mail are Popular

An excellent means of obtaining a knowledge of the fundamentals of agriculture is afforded by the correspondence courses offered by the University of California college of agriculture. These courses are intended primarily for those who are already engaged in agricultural pursuits, or prospective farmers. When an intending student enrolls by sending his application and the fee of \$2 for a selected course to the Division of Agricultural Education, University of California, Berkeley, a mimeographed sheet of information and questions is sent him by mail. These questions, upon being answered, are corrected at the university and the next sheet of lessons and questions is sent out.

The courses offered this year cover the following subjects: Alfalfa, corn, onion, barley, pear, walnut, almond, fig, plum, prune, date, avocado and apricot culture; grape growing, citrus fruit growing, semi-tropical fruit growing, olive growing, citrus table gardening, dairy, swine, sheep, poultry and rabbit husbandry; milch goat raising, home floriculture, home ground ornamentation, canning and preserving, normal nutrition, lumber and its uses, business aspects of California agriculture, and apiarian management.

The courses are proving very popular and the enrollment is steadily increasing, according to the university authorities.

## Our Correspondence School

Throughout the year we reply to thousands of inquiries for advice on every subject pertaining to Agriculture. We are always on the lookout for any new thing that may benefit the ranchers, and freely give the information.

We first advocated Progressive Dry Farming methods in 1902. We recommended the planting of legumes for green manuring and advised inoculation in 1905. We are now advocating the use of sulphur with lime as a fertilizer and to eradicate fungi and microscopic germs from the soil.

We were first to offer certified potato seed. We introduced the vegetables pictured on the back cover of this catalog, now worth \$20,000,000.00 annually to Southern California. We also introduced the Casabas, and the three most popular watermelons in California—the Chilian, Angeleno and the Klondike; also, the Tip-top Muskmelon. When you buy these things from Aggeler & Musser Seed Company you get pure seed.

## The Seedsman's Duty

Aggeler & Musser Seed Company have always worked for the highest efficiency in agriculture. Years ago when little attention was paid to seed selection, we were increasing farm values and adding to the grower's annual income by gradually building up the standard of vegetables by selecting our seed stock from the best types of vegetables and keeping them pure. We learned what the shipper, the canner and the gardener wanted. We made observations as to the varieties of vegetables best suited to certain soils and to climatic conditions. We studied the best methods of gardening and agriculture, and at much expense we disseminated this knowledge free to all who would read our catalog and other literature freely distributed by us.

Before the Farm Bureau was created we acted in that capacity to the utmost of our ability, with the result that the methods of gardening are nearly uniform throughout the entire southwest. This means a great saving to the beginner, who will observe and read this catalog.

## Three Most Valuable Books for California

By Edward J. Wickson, A. M.  
Emeritus Professor of Horticulture in the University of California; Editor of the Pacific Rural Press.

The California Fruits and How to Grow Them  
Ninth Edition, 1921

Price \$4.00; postpaid \$4.15

The California Vegetables in Garden and Field

Price \$2.00; postpaid \$2.15

California Garden-Flowers, Shrubs, Trees and Vines

Price \$1.50; postpaid \$1.70

These three books are standard and authentic works on these subjects of fruit growing, vegetable raising and general flower gardening about the home. Written by one who knows California conditions thoroughly.

## HARDY W. CAMPBELL

981 SOUTHERN PACIFIC BLDG., SAN FRANCISCO

Mr. Hardy W. Campbell is the man who reduced dry farming to a science. He sacrificed a fortune that the world may be benefited by his observations. He unselfishly devotes his time to compiling and publishing this information and distributes it freely. If you are a grain farmer ask him for Bulletin No. 10, or if you are a dry farmer of any kind write him describing your soil and telling him what crops you wish to grow.

Write us for one of the following books published by Mr. Hardy W. Campbell:

Campbell's Soil Culture Primer, 100 pages . . . . .60c

Campbell's Soil Culture Manual, 350 pages, \$2.75

## Read

"Thanks very much for your catalog. I get so much information out of it in raising vegetables that I did not know. Your seeds are all good and reliable."

"MRS. C. L. COLE, Imperial Co., Cal."

"Thank you for the catalog. This is the first I have had. Now I know I have been missing a real help."

(Signed) MRS. D. O'CONNOR, Inyo County, Calif."

"Thank you very much for the catalog. It is the very best ever."

GEO. TURNER, Maui, T. H."

## Agricultural Books

	Price	Postpd.
A. B. C. of Agriculture, by Weld.....	\$.50	\$.55
Alfalfa, by Coburn.....	.75	.85
Asparagus, by Hexamer.....	.75	.85
Bean Culture, by Sevey.....	.75	.85
Cabbage and Cauliflower, by Allen.....	.75	.85
California Fruit and How to Grow It, by Wickson.....	4.00	4.15
California Vegetables, by Wickson.....	2.00	2.25
California Garden Flowers, Shrubs, Trees and Vines.....	1.50	1.70
Second 1000 Questions in California Agriculture answered by Wickson.....	1.50	1.70
Campbell's Soil Culture Manual, 350 pages.....	2.50	2.75
Campbell's Soil Culture Primer, 100 pages.....	.50	.60
Cereals in America, by Carleton.....	2.50	2.60
Celery Culture, by Beattie.....	.75	.85
Clovers and How to Grow Them, by Shaw.....	1.65	1.75
The Corn Crop, by E. G. Montgomery.....	..	2.25
Chrysanthemums, by Herrington.....	.75	.85
Date Growing, by Popenoe.....	2.25	2.40
Farm Grasses of the United States, by Spillman.....	1.60	1.75
Flax Culture.....	.30	.35
Forage Crops Other Than Grasses, by Shaw.....	1.60	1.75
Wild Flowers of California, by P. B. Kennedy.....	1.50	1.70
Garden Helps, by Hall.....	.75	.85
Ginseng, Kain's Book on.....	.75	.85
Grasses and How to Grow Them.....	2.00	2.10
Injurious Insects, by Sempers.....	.50	.60
Insects and Insecticides, by Weed.....	1.60	1.75
Irrigation Farming, by Wilcox.....	2.00	2.20
Irrigation for the Farm, Garden and Orchard, by Stewart.....	1.50	1.70
Making a Living on an Acre, by Ritchey.....	.25	.35
Mushroom Culture, by American Spawm Co.....	.35	.40
Mushrooms and How to Grow Them.....	1.50	1.65
Manual of Tropical and Sub-tropical Plants, by Popenoe.....	5.00	5.20
New Onion Culture, by Grenier.....	.75	.85
Peanut Culture.....	.75	.85
Potatoes, by Frazier.....	1.00	1.15
Pruning Manual, by Bailey.....	2.00	2.20
Rhubarb Culture, the New, by Morse & Fiske.....	.75	.85
Roeding's Fruit Grower's Guide.....	1.50	1.65
Soils, by Burkett.....	1.25	1.40
Soils and Fertilizers (Illustrated), by Lyon.....	1.50	1.65
Spraying Crops, by Weed.....	.75	.85
Strawberry Culture, by A. S. Fuller.....	.40	.50
Sweet Potato Culture, by Fitz.....	.75	.85
Talks on Manures, O. by J. Harris.....	1.75	1.90
Tobacco Culture.....	.35	.40
Tomato Culture, by Tracy.....	.75	.85
Wheat, by.....	1.50	1.70

Look over the list of Agricultural books and send for the one that may aid you in your particular line.

## Monthly Bulletin

If you would have up-to-date information in horticulture send your name and address to the Department of Agriculture, Sacramento, California, asking that your name be put on the list to receive the monthly bulletin.

We believe that every farmer should continue to do his best to bring his farm up to its fullest productivity and that in doing this he should exercise his best judgment in determining the crop that his lands will best produce and then grow that crop whether it be wheat, alfalfa, sugar beets, rice, beans or vegetables. The proper preparation and cultivation of the soil go very far toward insuring success.

Following the proper preparation of the soil every farmer should have reliable seed to further insure success. We aim to give the farmer seeds that can be relied upon to make success complete.

Success is more certain if the seed be selected to suit the soil, season and purpose. This catalog will help you make the proper selection.

Thanks to the excellent work done by the U. S. Department of Agriculture and the various State Colleges of Agriculture, science is now being applied to our arable lands, which has increased the acreage yield of some crops as much as 25% with an average gain all along the line of 16%.

Much more is promised when the American Farm Bureau Federation gets down to co-operative team-work.

## Read

"Thanks for your wonderful catalog. I only plant a small garden, but your book is a wonderful help to me."

"MRS. L. L. BAKER, Cranmore, Calif."

"Received your catalog and it is surely fine; the best I ever read."

A. E. WOODRUFF, Glendale, Ariz."

"I have been reading your catalog and find a whole lot in it not in other catalogs. It will pay any gardener to study it carefully. I have gardened here nearly thirty years, and believe for information your book heads the list."

"F. C. CLARK, Texas."

"Will you kindly send me your catalog. I have just seen a friend's copy and find it a most valuable and instructive book for a home gardener. (Signed) MRS. H. C. FILES, Santa Ana."

"This is the first one of your catalogs I have ever had, and I would not part with it for it gives so much valuable advice on gardening. Wish I had seen your ad in the newspaper sooner. Please send me one next year."

"A. J. ANDREWS, Indiana."



## THE HOME GARDEN Is the Nation's Greatest Asset

It has often been said, "A Man in his own home is a contented man." We would revise this statement to read, "A Man in His Own Home Garden is a Contented Man." The man without a garden may be seen at the baseball game, or on the golf-links, or joy-riding, or engaged in some other way of getting recreation and exercise at more or less expense, and with some regret; but the man with a Home Garden gets more joy, more recreation and exercise at no expense, no regret, but always some reward in the supply of good, fresh vegetables, beautiful flowers, a home to be proud of, and a comfortable bank account with the money saved.

Figure it out for yourself: It is a very conservative estimate that every home garden fifty feet square can by intelligent tillage produce \$100.00 worth of vegetables each year. Fifty thousand gardens in the city of Los Angeles can easily produce \$5,000,000 worth of good healthy food and give good, healthy exercise, recreation and contentment, to 200,000, or more, people, and save another \$5,000,000 or much more, annually, of money that would be spent seeking exercise and recreation of doubtful pleasure that is often followed by regret.

If these figures apply to the city of Los Angeles alone, what gigantic total would be summed up for the nation.

The small home garden should give healthful exercise, produce good food, reduce the cost of living, and save money for millions of contented people.

Yes, THE SMALL HOME GARDEN is the Nation's greatest asset, and within the reach of all.

## THE FIVE AND TEN-ACRE MAN "The Little Lander"

### Is the Contented Man Today

A very comfortable living can be acquired on a small acreage where one man, aided by his good wife, and perhaps children, by doing all the work thereby avoid paying an unproportionate share to incompetent, indifferent and wasteful help which is so annoying that it takes all the joy out of what would otherwise be a contented living.

The Little Lander should be a specialist. He never produces more than he can personally dispose of, and to specialize means to become expert in any certain line.

We suggest as sure money-makers for the Little Lander, if soil conditions are favorable, the Carolina Strawberry; you have two chances for profit; one on the berries, another on the plants, coming at different seasons, so that both may be easily handled.

One-half acre of Roselle is profitable; the harvest time is in September and October.

If you can sell by the wayside, a collection of vegetables and melons may prove profitable. If in frostless sections, early and late beans, tomatoes, squash, cucumbers and sweet corn should pay well.

Many Little Landers are making a living from an acre of ground. This is done by keeping poultry, rabbits and goats—along with intelligent gardening. For first-hand information see:

#### WHAT MR. EVANS ACCOMPLISHED

What R. C. Evans raised on a plot 40x80 (raw land) from March 1st, 1920, to January 1st, 1921:

Extra Early Prolific Summer Squash, from 4 (four) vines 294 lb., some weighing 3½ lbs.

California Mammoth Pumpkin (Yellow) from 2 (two) vines, 122 lb.; one weighed 21 lb.

Sandwich Island Pumpkin (Gray) from 4 (four) vines 160 lb.; one weighed 35 lb.

Ponderosa (Beefsteak) Tomatoes, from 24 plants, 343 lb.; many weighing one pound each.

Irish Potatoes, 283 lb.; new potatoes and tomatoes for Christmas.

Kentucky Wonder Beans (green) from 2 lb. seed, 291 lb.; 11 beans in a pod.

One Porto Rico Yam (Sweet Potato) weighing 5 (five) pounds. Other vegetables raised were:

Lima Beans, Beets, Cabbage, Carrots, Cauliflower (some weighed six lbs.), Celery, Swiss Chard, Sweet Corn, Egg Plant, Endive, Kale, Kohl Rabi, Leeks, Lettuce, Casaba, Cantaloupe, Onions, Parsley, Parsnips, Peas, Sweet Potatoes, Radishes, Rhubarb, Turnips and Cucumbers.

The cost and profit follow:

Produced .....	\$92.35	Water bills .....	\$ 8.95
Sold for cash .....	48.40	Tools and Hose .....	17.66
		(To be used this year)	
Consumed, etc., .....	\$43.95	Seed and Fertilizer, etc.	16.06
		Total .....	\$41.66

These vegetables were grown from Aggeler & Mussey Seed, which gives perfect satisfaction.

I have gained in weigh, health and endurance, besides the pleasure derived.

Get busy in your home garden.

ROSCOE C. EVANS, Los Angeles, Calif.

## Reduce the H. C. L. by Planting a Home Garden Marketing the Small Crop at Home

If your garden is by the highway, your marketing question is solved, but you cannot build up a dependable trade with the offer of something now and then; have something all the time. Have your neighbors co-operate with you in growing something the year 'round so that the customers who daily pass your place may depend upon you for their regular requirements.

## Timely Hints

## WHAT TO PLANT? WHEN AND HOW TO PLANT IT.

See Inside Back Cover

## WHAT TO DO? WHEN AND HOW TO DO IT.

### Read this Calendar

**January**—January is the month in which you receive this catalog; it at once suggests that this is the time to get ready to make your garden. See next page.

When preparing the soil add a mixture of two pounds of Torrance lime and two pounds of Toro sulphur to every space 10'x10', or to every hundred feet of row. It is an excellent fertilizer, and will destroy any fungus and germs of microscopic insects, such as Nematode, Rhizoctonia, Potato Scab, Melon Wilt, etc., etc.; see page of insecticides.

January is the month for making your hotbed, transplanting berries, grapes, and deciduous fruit of every variety. Transplant also all hardy vegetables and flowers. Spray deciduous fruit trees for Curly-leaf and Codlin Moth.

**February**—Now that the hot-bed is made and the ground all ready, let this month be known as **planting time**. Sow seed of anything you wish except the well known tender vegetables, such as corn, beans, melons and cucumbers, but these may be planted in sandy soil where there is no danger of frost, or, if there is danger of frost the young plants may be protected with paper caps. See page on melon culture.

Transplant all hardy varieties as for January, but you will protect the plants from the north and west winds by building windbreaks, using shingles or paper.

When transplanting it is wise to pinch off all the larger foliage, leaving only the tip. This is to avoid the damage done by the wind; besides there is less work of absorption required of the roots, which are not yet established. You will find that by removing the foliage the plant suffers less by transplanting and recovers more quickly.

**March**—In frostless districts most anything may be planted during this month if in sandy soil. Do not plant seed of tender growing plants in heavy soil. Rather wait until May. Cultivate what was planted during February. Plant corn and melons with the segment corn planter.

**April**—Do not neglect to apply sulphur and lime.

Plant most any variety of vegetable or flower, but work all heavy soil freely that it may become quite warm and friable. This is important where it is intended to plant corn and sorghums.

**May**—Plant anything you wish in your garden, and now is the time to plant a second crop of those varieties planted in January, February and March. Transplant Sweet Potatoes, using the Masters Plant Setter. See pages for farm requisites.

Get ready the Summer Crop; clean all rubbish off the place; watch evidence of mildew and spray with Bordeaux. Wherever there is a colony of ants apply the formula given on page for insecticides.

**June**—Plant your early fall crop of vegetables and force all growth with fertilizer and irrigate freely. Don't forget Toro sulphur and lime. Transplant celery.

**July**—Let now be your last planting of Sweet Corn, Tomatoes and Melons. Plant Cauliflower and kindred hardy vegetables; also Pumpkins, Squash and Cucumbers.

**August**—Plant your fall crop of root vegetables and potatoes. This is the hardest month in the year to get a stand from small seed, because of the excessive heat of the sun on parched soil.

You will need a Pennsylvania Fruit Picker this month and next. See farm requisites.

Spray for Scale. (See insecticides).

**September**—This is the month for the big planting of Peas, Lettuce and Onions; transplanting Cabbage and Cauliflower. Plant cover crops this month, also Garden Peas.

**October**—Plant your winter garden during this month, all cover crops and grain. Plant Imported Bulbs. (Ask for our Bulb Circular.) Continue transplanting Cabbage and Cauliflower. This is the month to fumigate for scale. Dig Sweet Potatoes. Use the Perine digger. See page for Sweet Potatoes.

For Clover and Grains use the Cahoon Seeder (see pages for farm requisites).

**November**—Plant Bulbs, transplant Cabbage and Cauliflower, Spray Peas with sulphur. Spray early planting of Cabbage with Black Leaf 40 to destroy aphids. Prune Deciduous Trees and Grapes. (Select your pruning shears from this catalog.)

For a small home garden use the Continuous Sprayer; for a large garden use the Lowell's or Utility (see page for Sprayers).

**December**—Let this be clean-up month. This is the month when all rubbish should be cleaned out; all pruning should be completed. Plant Strawberries, Asparagus, Rhubarb and all hardy crops.

Get ready for early spring planting.

## Read

"I want to thank you for your splendid catalog; it is interesting and instructive. If your seeds are in a class with it they are O. K. (Signed) L. G. BRANNER, Illinois."

"Thank you for the catalog; it is by far the most helpful of any I have seen. MRS. JNO. B. HURST, Atascadero, Calif."

"Be sure and put my name on your list for your catalog, for it is the best I've ever had. NYE A. FOLSOM, Perris, Calif."

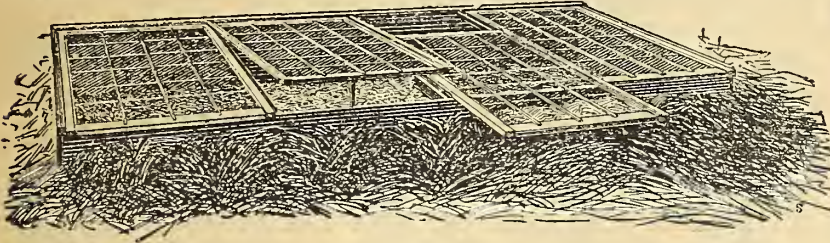
"Please send me your 1921 catalog as I need it very much; it is the best and most instructive catalog in existence."

"F. H. CRAMER, Florida."



# The Primer of Agriculture

The instructions on this page and next are so essential to the amateur and the new-comer that we repeat them from year to year. But each year brings out some new phase of agriculture, much of which we include in these columns; therefore, the reader will find something worth while that did not appear in last year's catalog.



Hot Bed

Every garden should have a hot bed in a sunny corner for the purpose of raising plants for early vegetables.

Dig a trench east and west twelve to eighteen inches deep. A bed three feet wide and ten feet long is large enough for any family garden. Board twelve inches high on the north side and six inches high on the south side. Fill twelve inches deep with straw, manure or weeds, moisten slightly, pack tightly, cover three inches deep with sandy loam; if the loam is mixed with some finely sifted peat or leaf-mould, it will greatly improve it. One pound each of Toro sulphur and Torrance lime would fertilize the hotbed and do much toward destroying fungus and insects. Sow the seed in rows across the hot bed north and south, so that the sun will light both sides of the row during the day, making strong, healthy plants. Do not sow too thickly nor more deeply than one-fourth inch. Cover the hot bed with glass, not muslin. No less than twelve inches should exist between the glass and the soil. Sprinkle sufficiently to moisten the soil, but not enough to cool the manure, which would then become chilled and be worse than no manure at all. Raise the glass during the day, and close at night. Without ventilation the plants may be scalded during a warm sunny day. Before transplanting from the hot bed, all plants should be hardened by exposing them to the sun for several days. Exercise proper judgment lest they be destroyed.

## THE SOIL

There are two kinds of soil in California that baffle the new gardener, and often puzzle the man of experience. One kind is the raw, unreclaimed soil that packs so hard that vegetation cannot take root. The other soil is as pliable as sand, and ought to grow anything but just will not. Both require the same solution. They need life (humus) and there is nothing better to put life into soil than a green manuring crop plowed under at the right time, and to thoroughly air the soil by cultivation.

For your garden gather weeds and dig them under. Any decaying vegetation plowed under will add humus. For the field, grow rye, vetch, mellilotus, or barley during the winter months, and in the spring plant Sorghum, Sudan and Cow Peas. All these crops will furnish feed for the stock as well as humus to the soil.

To grow well a plant requires a deep, mellow, moist, soil, supplied with the right amount of air, heat and available plant food. An important step, then, in the successful growing of vegetables is to prepare the soil in such a way that it will be congenial to the best root growth. The soil for truck crops is a rich sandy loam—a soil containing varying proportions of clay, sand and organic matter. A good vegetable soil can be made in most back yards by intelligent management, and an application of two pounds each of Toro Sulphur and Torrance lime to every 100 square feet.

## Clay and Adobe Need Skill

Of all the garden soils, clay is the most easily injured by tilling when it is not in the right condition as to moisture. If worked too wet, the particles all slide together into a compact mass. On the other hand, if worked too dry, the clods are hard to break. When clay soil is in the right condition to work it will crumble apart if squeezed in the hand. If it sticks together it is too wet. Clay soil should never be worked when it is wet, not even with a hoe. This is an important lesson for all gardeners.

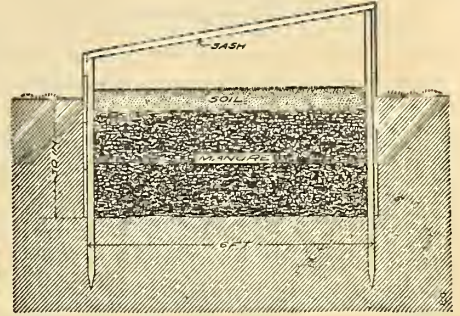
In a deep, mellow soil, the plants grow more quickly, since larger root systems can be developed and more food and moisture taken in. A deep, mellow soil affords a larger reservoir to hold rain needed during the droughts that come in the growing season. Such a soil is warmer and contains air needed for the growing roots and for the bacteria that cause decay of organic matter or gather nitrogen from the soil air.

## A Compost Pit

Make a pit about 12 inches deep in some out-of-the-way place in the home garden. Put into it every particle of vegetation that will decay. When cleaning up burn only sticks that will not decay readily, but put the ashes into the pit with the compost. Turn the compost over with a fork and sprinkle with water whenever it shows signs of heating. This compost is valuable fertilizer, therefore do not neglect the Compost Pit.

## A Word About Sowing Seeds

Many seeds are small and the germination weak, therefore sow them very shallow, often not more than one-eighth inch deep. This is because the germ or sprout must have air and light. If this is denied by too deep sowing, it dies before it reaches the surface.



Hot Bed, Cross Section

In order to assist small or weak seeds to grow, it is advisable to plant plentifully, because the many seeds will give strength to raise the soil where one could not do so.

This advice applies particularly to beet and melon seeds, but it is applicable to all small seeds. It is easy to thin out the surplus plants. A good general rule is to plant seeds to a depth equal to from three to five times their diameter, make ridges to stand about six inches high, flattened to about ten inches wide on top and twelve inches between ridges. Drill the seed or transplant on each side of the ridge. Irrigate in the furrow between the ridges. By this method two ridges are irrigated with one furrow, and you will have only one furrow to cultivate after each irrigation. It is easy to see the advantage of this method over the usual way of drilling on level ground and irrigating each row, often flooding the plant, which is harmful, particularly during the heat of the summer. (See illustration.)

## A Few Words About Irrigation

In seed beds where small seeds are sown thickly, it is necessary to sprinkle the beds, never flood them. During the winter months, sprinkle only in the morning when the water is warmer than the dew. This allows all the heat that accumulates in the soil during the day to be retained far into the night. During the hot summer months, it will be necessary to sprinkle in the evening to revive the plants after a hot day.



## Irrigating Sweet Potatoes or other crops

When making a garden, whether for drilling or planting seed, or setting plants, always wet the ground thoroughly. GIVE IT A GOOD SOAKING DOWN TO SUB-MOISTURE. As soon as it is tillable—that is, as soon as it can be spaded and pulverized, or when the soil will not stick to the spade, dig it ten or twelve inches deep, put compost into every other furrow and turn it under. This is needed for humus and fertilizer, either in sandy or loamy soil, and more especially in adobe soil. Pulverize the soil thoroughly and rake it evenly. While it is still moist, plant seed from one-fourth inch to one inch deep, in heavy soil, and a little deeper in sandy soil. Planted this way, almost any variety of seed will germinate and show above the ground in from four to ten days, with irrigation. Never sprinkle in a new garden before the plant is above ground, nor after if you can irrigate between the rows. It is far better to irrigate than to sprinkle, and much less labor. Always mulch the soil after each irrigation, as soon as it mulches readily, but no sooner. To allow the soil to bake after irrigation is far worse than no irrigation at all.

To sprinkle the garden slightly each day during the summer months is of little value unless the ground is also thoroughly irrigated once each week or two, according to the nature of the soil. Slight sprinkling refreshes the foliage, but may not penetrate the soil more than one inch deep. Thus as the under soil dries, the roots get no moisture. The plants suffer, and you do not suspect the cause because you sprinkle each day. This is a common fault and the cause of many failures.

"Your place is the only one where I am certain of pure seed."  
"H. S. EDWARDS, Calif."



# Vegetable Garden Calendar for Out-Door Planting 300 Questions Answered On This Page

Owing to the diversity of the soil and climatic conditions of the great Southwest, it is impractical to follow without some deviation any table that might be formulated. We believe this table is as nearly correct as any table can be made, yet the time of planting must vary with each season, and so seldom are the seasons at all similar that there is always an element of risk for the man who plants early. Each month, too, requires certain varieties best suited to the season and purpose for which it is planted.

KIND	SEED FOR 1 ACRE	SEEDS FOR 100 FEET OF ROW	DISTANCE APART		DEPTH OF PLANTING (*2)	TIME OF PLANTING (*3)	READY FOR USE AFTER PLANTING (*4)
			ROWS APART (*1)	APART IN ROW (*1)			
*Artichoke.	1 lb.	1 oz.	4 ft.	3 ft.	1 in.	April to July	8 mos.
†Asparagus Seed.	3 lbs.	1 oz.	1 to 2 ft.	3 to 5 in.	1 in.	Feb. to May	2 years
*Asparagus Plants.	14,000	60 to 80	2 to 3 ft.	15 to 20 in.	6 to 10 in.	Dec. to Mar.	1 year.
†Beans, Bush.	25 to 50 lbs.	1 lb.	1 1/2 to 2 ft.	4 in.	1 to 2 in.	Mar. to Sept.	2 to 3 mos.
†Beans, Pole.	2 to 40 lbs.	1 lb.	3 to 4 ft.	1 1/2 to 2 ft.	1 to 1 1/2 in.	Mar. to July	2 to 3 mos.
†Beets, Table.	8 lbs.	2 oz.	1 to 1 1/2 ft.	3 to 4 in.	1 1/2 to 2 in.	All the year	3 to 4 mos.
*Brussels Sprouts.	1 1/2 lb.	1 1/2 oz.	1 1/2 to 2 ft.	1 1/2 to 2 ft.	1 1/2 in.	All the year	4 to 5 mos.
*Cabbage.	1 1/2 lb.	1 1/2 oz.	3 ft.	1 to 2 ft.	1 1/2 in.	All the year	5 to 6 mos.
†Carrot.	4 lbs.	1 1/2 oz.	1 to 2 ft.	3 to 4 in.	1 1/2 in.	All the year	3 to 4 mos.
*Cauliflower.	1 1/2 lb.	1 1/2 oz.	2 1/2 to 3 ft.	1 1/2 to 2 ft.	1 1/2 in.	July to Jan.	4 to 5 mos.
*Celery.	1 1/2 lb.	1 1/2 oz.	1 1/2 to 3 ft.	1 1/2 to 2 ft.	1 1/2 in.	Jan. to May	4 to 5 mos.
†Corn, Sweet.	10 lbs.	1 1/2 lb.	3 to 4 ft.	12 in.	1 in.	Mar. to Aug.	2 to 3 mos.
†Cucumbers.	3 lbs.	1 1/2 oz.	4 ft.	4 ft.	1 in.	Mar. to Sept.	2 to 3 mos.
*Egg Plant.	1 1/2 lb.	1 1/2 oz.	3 to 2 1/2 ft.	1 1/2 to 2 ft.	1 1/2 to 1 in.	Dec. to July	3 to 4 mos.
*Kale, or Borecole.	1 1/2 lb.	1 1/2 oz.	1 1/2 to 2 ft.	1 to 2 ft.	1 1/2 in.	All the year	3 to 4 mos.
*Kohi-Rabi.	3 lbs.	1 1/2 oz.	1 1/2 to 2 ft.	1 in.	1 1/2 in.	All the year	3 to 4 mos.
*Lettuce.	3 lbs.	1 1/2 oz.	1 1/2 to 2 ft.	6 to 8 in.	1 1/2 in.	All the year	3 to 4 mos.
†Melon, Musk.	1 lb.	1 1/2 oz.	4 to 6 ft.	6 to 8 ft.	1 in.	Mar. to July	3 to 4 mos.
†Melon, Water.	1 lb.	1 oz.	6 to 8 ft.	8 to 10 ft.	1 in.	Mar. to June	3 to 4 mos.
†Okra.	6 lbs.	1 oz.	2 ft.	1 ft.	1 in.	April to July	4 mos.
†Onion Seed.	3 lbs.	1 oz.	1 to 1 1/2 ft.	1 1/2 to 3 in.	1 1/2 to 1 in.	Aug. to April	5 to 6 mos.
†Onion Sets.	250 lbs.	2 lbs. sets	1 to 1 1/2 ft.	2 to 1 1/2 in.	1 in.	All the year	4 to 5 mos.
*Parsley.	2 lbs.	1 1/2 oz.	1 to 1 1/2 ft.	1 1/2 to 2 in.	1 1/2 in.	All the year	5 to 6 mos.
†Parsnip.	4 lbs.	1 1/2 oz.	1 1/2 to 2 ft.	3 to 4 in.	1 1/2 to 1 in.	All the year	4 to 5 mos.
†Peas.	60 lbs.	1 1/2 lb.	2 1/2 to 3 ft.	2 in.	2 to 3 in.	All the year	4 to 5 mos.
*Pepper.	1 1/2 lb.	1 1/2 oz.	1 1/2 to 2 ft.	15 to 18 in.	1 1/2 in.	Dec. to July	3 to 4 mos.
†Potatoes, Irish.	600 lbs.	5 lbs.	2 to 3 ft.	12 to 15 in.	4 to 6 in.	Jan. to Sept.	2 to 3 mos.
†Potatoes, Sweet.	400	3 lbs.	8 to 5 ft.	1 1/2 tons grain	3 in.	Mar. to July	3 to 4 mos.
†Pumpkin.	1 lb.	1 1/2 oz.	6 to 8 ft.	6 to 8 ft.	1 to 1 1/2 in.	Mar. to Aug.	3 to 4 mos.
†Radish.	12 lbs.	1 oz.	1 to 1 1/2 ft.	1 1/2 to 2 ft.	1 1/2 in.	All the year	1 to 2 mos.
*Rhubarb.	2 lb.	33 plants	3 to 5 ft.	3 ft.	2 to 3 in.	Dec. to May	2 to 3 mos.
†Salsify.	6 lbs.	1 oz.	1 1/2 to 2 ft.	2 to 4 in.	1 to 2 in.	All the year	3 to 4 mos.
†Spinach.	15 lbs.	1 oz.	1 1/2 to 2 ft.	2 to 4 in.	1 in.	All the year	3 to 4 mos.
†Squash, Summer.	2 lbs.	1 1/2 oz.	3 to 4 ft.	2 to 9 ft.	1 1/2 in.	Feb. to Sept.	3 to 4 mos.
†Squash, Winter.	1 lb.	1 1/2 oz.	7 ft.	2 to 9 ft.	1 1/2 in.	Mar. to Aug.	3 to 4 mos.
*Tomato.	1 1/2 lb.	1 1/2 oz.	7 ft.	6 ft.	1 1/2 in.	Dec. to July	3 to 4 mos.
†Turnip.	3 lbs.	1 1/2 oz.	1 to 2 ft.	3 to 4 in.	1 1/2 to 1 in.	All the year	3 to 4 mos.

(1)—Distance apart varies with the season and soil.

(2)—Depth of planting varies with the season and condition of soil.

(3)—Time of planting varies according to local conditions with regard to temperature.

(4)—Time of maturity varies with the temperature and cultural conditions. This table shows required time of maturity after transplanting. It requires 6 to 8 weeks longer from time of sowing seed.

†—Drill and thin.

\*—Transplant.

†—Plant in hills.

## SEEDS REQUIRED PER ACRE FOR FIELD CROPS IN SOUTHERN CALIFORNIA

VARIETY	PLANTS OR SEED	HOW TO PLANT	AVERAGE APPROXIMATE YIELD
Alfalfa.	25 lbs. seed.	Drills or broadcast.	8 to 10 tons hay, or 600 lbs. seed
Ahualaria.	8 lbs. seed.	Drill or broadcast.	3 tons hay and pasture
Barley.	60 lbs. seed.	Drill or broadcast.	20 to 40 tons hay
Beans, Bush.	25 to 40 lbs.	Drill in rows 3 ft. apart.	1500 to 2000 lbs.
" Lima.	50 to 60 lbs.	Drill in rows 3 ft. apart.	1500 to 2000 lbs.
" Windsor.	100 lbs.	Drill in rows 2 ft. apart.	Hog pasture and green manuring
Beets, Stock.	8 lbs.	Drill in rows 2 ft. apart.	20 to 25 tons of beets
Burr Clover.	20 lbs.	Drill or broadcast.	Pasture and green manuring
Cane, or Sorghum.	5 lbs.	Drill 5, or broadcast 40 lbs.	20 to 25 tons of carrots
Carrots, Stock.	4 lbs.	Drill in rows 1 1/2 ft. apart.	1 1/2 ton broom straw
Corn, Broom.	5 lbs.	Drill in rows 3 ft. apart.	20 to 40 tons silage
" Ensilage.	40 lbs.	Drill 1 ft. apart in rows 3 ft. apart.	2 tons grain
" Field.	10 lbs.	Hills 2 ft. apart, rows 3 ft. apart.	1 1/4 tons
" Kaffir.	5 lbs.	Drill in rows 3 ft. apart.	1 1/2 tons grain
" Milo Maize.	5 lbs.	Drill in rows 3 ft. apart.	1 ton
" Pop.	6 lbs.	Hills 1 ft. apart, rows 2 ft. apart.	1 to 1 1/2 bales and seed
Cotton.	15 lbs.	Drill in rows 4 ft. apart.	Pasture and green manuring
Cow Peas.	25 lbs.	Drill in rows 3 ft. apart.	2 tons grain
Feterita.	5 lbs.	Drill in rows 3 ft. apart.	Hay and pasture (damp land)
Grass, Italian Rye.	20 lbs.	Broadcast.	Cut 1 1/2 tons per acre 4 times (damp land)
" Paspalum.	10 lbs.	Broadcast.	Hay and pasture
" Perennial Rye.	20 lbs.	Broadcast.	Cut 2 tons per acre 3 times
" Rhodes.	10 lbs.	Broadcast.	Cut 4 tons per acre 3 times
" Sudan.	10 lbs.	Broadcast.	3 tons hay or 1 ton grain
Oats.	50 lbs.	Drill or broadcast.	Pasture or green manuring, or 1 ton grain
Rye.	40 lbs.	Drill or broadcast.	Pasture or green manuring
Vetch.	40 lbs.	Drill or broadcast.	2 tons hay or 1 ton grain
Wheat.	40 lbs.	Drill or broadcast.	

## NAMES OF VEGETABLES IN FOREIGN LANGUAGES

English	French	Italian	Polish	German	Spanish	Scandinavian
Asparagus.	Asperge.	Sparagolo.	Szparagol.	Spargel.	Esparrago.	Asparages
Beans.	Haricots.	Fagioli.	Fasola.	Bohnen.	Habichuela.	Boenner
Beet.	Betterave.	Barbabietola.	Buraki.	Rube.	Remolacha.	Roedbede
Cabbage.	Chou.	Cavolo Cappuccio.	Kapusta.	Kopfkohl.	Col repello.	Kaal
Carrot.	Carotte.	Carota.	Marebow.	Carotten.	Zanaboria.	Gulerod-Karroter
Cauliflower.	Chou-fleur.	Cavolfiore.	Kalanjory.	Blumenkohl.	Coliflor.	Blomkaal
Celery.	Celeri.	Sedano.	Seler.	Apio.	Selleri.	Seller
Corn.	Mais.	Mals.	Kukurzydza.	Mals.	Malz.	Mals
Cucumber.	Concombre.	Cetriolo.	Ogorek.	Gurken.	Cobombro.	Agurk
Dandelion.	Dandelion.	Dente di leone.	Papawa.	Lewenzahn.	Diente de leon.	Loevertand
Eggplant.	Aubergine.	Petronciano.	Gruzka.	Eierpfanze.	Berengena.	Egplante
Edible.	Chicoree.	Endivia.	Endyvia.	Endivien.	Endyvia.	Endyvia
Kale.	Chou vert.	Cavolo verde.	Solanka.	Blattenkohl.	Breton, Berza.	Groenkaal
Kohlrabi.	Chou-rave.	Cavolo rapa.	Kalarepa.	Knollkohl.	Col Rabano.	Kaalrabi
Leek.	Poireau.	Porro.	Pory.	Porree.	Puerro.	Purre
Lettuce.	Laitue.	Lattuga.	Salata.	Salad.	Lechuga.	Salat
Melon, Musk.	Melon.	Pepone.	Melon.	Melone.	Melon.	Melon
Melon, Water.	Melon d'eau.	Melone d'acqua.	Melon, Wodny.	Schwamm.	Sandia.	Vandmelon
Mushroom.	Champignon.	Fungo Pratajolo.	Grzyb.	Schwamm.	Sandia.	Champignon
Okra.	Gombaud.	Oera.	Rzodkiew.	Ocher.	Gombo.	Hibiskus
Onion.	Ognon.	Cipollo.	Cebula.	Zwiebel.	Cebolla.	Roedloeg
Parsley.	Persil.	Prezemolo.	Pietruszka.	Petersilie.	Perejil.	Persille
Parsnip.	Panais.	Pastinaca.	Pasternak.	Pastinake.	Cobirvia.	Pastinak
Peas.	Pois.	Pisello.	Pisient.	Erbsen.	Guisante.	Erter
Pepper.	Piment.	Peperone.	Pieprz.	Pfeffer.	Pimiento.	Spansk Peper
Pumpkin.	Potiron.	Zucca.	Bania.	Melonen-Kurbiss.	Calabaza Tomanera.	Graeskar
Radish.	Radis.	Ravanello.	Rzodkiew.	Radies.	Rabanito.	Reddik-Radis
Salsify.	Salsifis.	Sassifrica.	Jarzy Ostryza.	Haferwurz.	Salsifi.	Havrerod
Spinach.	Epinard.	Spinace.	Szpinak.	Spinat.	Espinace.	Spinat
Squash.	Courge.	Zucca.	Miekurz.	Kurbis.	Calabaza.	Squash-graeskar
Swiss chard.	Polce.	Bietta.	Bietka.	Beiskohl.	Bleda.	Blad bede
Tomato.	Tomate.	Pomo d'oro.	Pomidor.	Liebesapfel.	Tomate.	Tomat
Turnip.	Navet.	Navone.	Rzepa brukiew.	Weisse-Rube.	Nabo.	Turnips

## NUMBER OF PLANTS TO ACRE SET AT REGULAR DISTANCES APART

DISTANCE APART	NO. PLANTS
3 in. by 4 in.	522,720
4 in. by 4 in.	392,040
6 in. by 6 in.	174,240
1 ft. by 1 ft.	43,560
1 1/2 ft. by 1 1/2 ft.	19,360
2 ft. by 1 ft.	21,780
2 ft. by 2 ft.	10,890
1 1/2 ft. by 2 1/2 ft.	6,960
3 ft. by 1 ft.	14,520
3 ft. by 2 ft.	7,260
3 ft. by 3 ft.	4,840
3 1/2 ft. by 3 1/2 ft.	3,555
4 ft. by 1 ft.	10,890
4 ft. by 2 ft.	5,445
4 ft. by 3 ft.	3,630
4 ft. by 4 ft.	2,722
4 1/2 ft. by 4 1/2 ft.	2,150
5 ft. by 1 ft.	8,712
5 ft. by 2 ft.	4,356
5 ft. by 3 ft.	2,904
5 ft. by 4 ft.	2,178
5 ft. by 5 ft.	1,742
5 1/2 ft. by 5 1/2 ft.	1,440
6 ft. by 6 ft.	1,200
7 ft. by 7 ft.	888
8 ft. by 8 ft.	680
9 ft. by 9 ft.	537
10 ft. by 10 ft.	435
11 ft. by 11 ft.	360
12 ft. by 12 ft.	300
14 ft. by 14 ft.	222
15 ft. by 15 ft.	193
16 ft. by 16 ft.	170
16 1/2 ft. by 16 1/2 ft.	160
17 ft. by 17 ft.	150
18 ft. by 18 ft.	134
19 ft. by 19 ft.	120
20 ft. by 20 ft.	108
25 ft. by 25 ft.	69
30 ft. by 30 ft.	48
33 ft. by 33 ft.	40
40 ft. by 40 ft.	27
50 ft. by 50 ft.	17
60 ft. by 60 ft.	12
66 ft. by 66 ft.	10

Rule.—Multiply the distance in feet between the rows by the distance the plants are apart in the rows, and product will be the number of square feet for each plant or bill, which divided into the number of square feet (43,560), will give the number of plants to the acre.



# Vegetable Plants and Roots---Millions of Them

All plants are inspected here, but when they reach destination, the postmaster must notify the inspector and hold the plants for inspection. We notify the inspector of the county into which the plants are being shipped.

No Tender Plants Sent by Mail Except at the Buyer's Risk

We aim to have on hand throughout the year vegetable plants of every kind in their proper season.

All hot house plants are thoroughly hardened by exposure in the open before sending out.

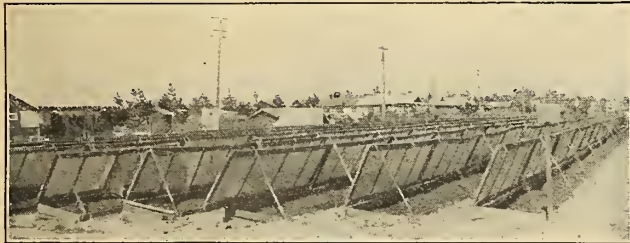
Cash must accompany all orders for plants.

Owing to the expense of packing small plants for shipment by mail or express, we must request that your order for plants amount to not less than one dollar.

	On Hand
Artichoke, Green Globe.....	Jan. 1st to May 1st
Asparagus, Martha Washington, Palmetto.....	Jan. 1st to May 1st
Cabbage, Winnigstadt, Danish Ballhead.....	All Year
Cauliflower, Snowball, Early Pearl.....	Sept. 1st to Apr. 1st
Chives .....	Jan. to May 1st
Egg Plant, New York Spineless.....	Apr. 1st to Sept. 1st
Horse Radish, Bohemian .....	Jan. to May 1st
Pepper, Anaheim Chili.....	Mar. 15 to Sept. 1st
Chinese Giant .....	Mar. 15 to Sept. 1st
Pimiento .....	Mar. 15 to June 1st
Rhubarb .....	Jan. to May 1st
Sweet Potato, Yellow Jersey.....	Mar. 15 to July 1st
Sweet Potato, Nancy Hall.....	Apr. 1st to June 1st
*Tomato, A. & M. First Early.....	Feb. 15 to June 1st
Beefsteak .....	Feb. 15 to June 1st
Stone .....	Apr. 1st to Sept. 1st

\*After May 1st tomato plants grown outside, \$4.00 per 1000.

	Doz.	Price—Postpaid Per 100	f.o.b. here Per 1000	Weight Per 1000
	\$2.00	\$12.50	\$.....	..
	.50	4.00	30.00	50 "
	.25	.75	4.00	50 "
	.25	1.00	4.00	50 "
1 bunch 15c		1.50 Doz.		
	.75	4.00	30.00	100 "
	.25	1.50	10.00	25 "
	.30	2.00	15.00	20 "
	.30	2.00	15.00	20 "
	.30	2.00	15.00	20 "
	1.50	10.00	.....	..
	.20	1.25	5.00	20 "
	.25	1.50	6.00	20 "
	.25	1.50	10.00	20 "
	.25	1.50	10.00	20 "
	.25	1.50	10.00	20 "



Tomato Plants, Millions of Them

## Notice to Cannery and Large Planters

We grow plants, millions of them, and by contracting with us two months in advance of the time you want delivery, for all the plants you will need, you can then arrange with your growers to furnish them plants when they are wanted, thereby saving much anxiety, labor and expense.

## Our Terms:

As an expression of sincerity, on the part of the customer and remuneration to us for the expense of growing these plants, we must have one-half cash with the signing of the contract.

On account of the perishable nature of plants, subject to delay in transit and quarantine regulations, we prefer to deliver all plants at the counter in our store, but when necessary to send by mail or express, it must be understood that we do so at the buyer's risk. We will say, however, that less than 2 per cent of plant shipments go wrong, but the small percentage takes all the profit out of the season's business.

## A SUGGESTION

When you have more plants than you want, sell or give to your neighbors. Do not waste!

Each season some one in every community has neglected to grow plants for their garden, often with the idea that they will need only half a dozen each of several kinds and they can be bought cheaper than they can be grown; all of which is very true. Therefore let us suggest that when you are reading this catalog preparatory to making up your order for seeds take into consideration that many of your neighbors will want some plants. So if you hesitate to order a packet of this or that because three or four plants are all you need, just consider that your neighbor will want some; it will not be much trouble to grow them along with other things, and you or your boy may make them a little money with which to buy War Savings Stamps, and at the same time increase food production.

## Read

"I am a gardener of 35 years experience in Michigan, and have found your catalog very helpful in adapting my practice to California, especially in the matter of irrigating and mulching, and in the selection of varieties suitable to this section. Seeds bought from you earlier in the season have germinated well and will, I feel sure, give a good account of themselves. Yours truly,  
"CHAS. S. DUTTON, Acton, Calif."

"I am in receipt of your 1921 catalog which certainly speaks for the enterprise of your firm, none finer in real value to the planter comes to my desk.  
(Signed) BYRON O. CLARK, Prop. Caladen Nursery, Cal."

## Home Garden Collections

Heretofore we have offered home garden collections, but they have not proven practical because few home gardens could accommodate the entire collection and few customers wanted everything offered on the list.

Therefore, we have listed on this page a collection of our home garden favorites. You may select what you want.

If you will select your home garden seeds from this list you will have made a good start toward success. Be sure to follow cultural instructions.

### Home Garden Favorites. Per Pkt. 10c.

Asparagus	Argenteuil
Beans	{ Kentucky Wonder
	{ Stringless Green Pod
	{ Fordhook Lima
	{ Monstrous Lima
Beets	Detroit Dark Red
Chard	White Swiss
Cabbage	{ Glory of Enkhuizen
	{ Chinese
Cauliflower	Ex. Early Calif. Pearl
Carrots	Chantenay
Celery	Golden Self-Blanching
Sweet Corn	{ Country Gentleman
	{ Oregon Evergreen
Cucumber	Klondike, Lemon
Kale	Tall Scotch
Lettuce	{ Iceberg (Spring Planting)
	{ Los Angeles Market (Fall Planting)
Mustard	Ostrich Plume
Casaba	Hybrid
Muskmelon	{ Armenian
	{ Tip Top
	{ Klondike
Watermelon	{ Chilian
	{ Angeleno
	{ Winter Melon
Onion	Only One—The Riverside Sweet Spanish
Peas	{ Admiral
	{ Telephone
Pepper	Chinese Giant
Potato	White Rose
Radish	{ Icicle
	{ Scarlet Turnip
Roselle	Wagner's Giant
Rhubarb	{ Winter Banana
	{ Zucchini
Squash	{ White Bush
	{ Ponderosa
Tomato	

Every packet contains enough seed to grow more vegetables of its kind than the average family can consume in a season.

For complete description and cultural instruction of these items, read this catalog.

"We have had a nice patch of winter garden on our lot here grown from your seeds bought in the local grocery stores. Radishes, lettuce, carrots, turnips and beets all doing fine.  
(Signed) MRS. ANDREW WHITE, Corona, Calif."



# A & M RELIABLE SEEDS

## Aggeler & Musser Seed Co.'s Vegetable Seeds are the Stand- ard Seeds of the Southwest

# A & M RELIABLE SEEDS

The vegetables grown from A. & M. Seeds are the standard vegetables at every market in which they appear.  
SEEDS PLANTED OUT OF SEASON, OR IN UNCONGENIAL SOIL MEANS LOSS TO THE GROWER.

### Proper Selection

We have endeavored in this catalog to offer only the best and most popular varieties. A duplication only confuses the customer. From our own long experience we can well determine what varieties are the best for each particular purpose, therefore, throughout the catalog you will find, not a long list of things, but only the best which is suited to each purpose; the one that will bring the most profit to the market gardener, or the best results in the family garden. You need look no further. Read our descriptions and recommendations, and select the one suited to your conditions.

### SUGGESTIONS FOR A CALIFORNIA GARDEN ON A CITY LOT

You have just moved into a new home of your own; you have not much time for gardening, yet you wish to get the most out of the small space. Read in this catalog about the preparation of the soil, then purchase A. & M. seeds according to the season. For this consult the inside of the back cover page. Plant seeds properly and with ordinary culture you will be eating radishes within three weeks, followed in succession by green onions, cucumbers, spinach, beans, beets, lettuce, carrots, sweet corn, peppers, and tomatoes. Have a few plants of rhubarb, a bed of asparagus about 10' x 10' will afford enough for a small family. Plant spinach and rhubarb in shady places. Fruit trees are very satisfactory if properly sprayed at the right time. It will not require much space to have one each: Early and late apples, early, medium and late peach, one Kadota fig. These will give the family fruit for breakfast all summer and there is nothing better than peaches and cream with a good cereal. If you have a city lot, have a garden; you can grow \$100.00 worth of better vegetables than you can buy.

### OUR CALL DESK

This has proven to be just what was needed to round out the efficiency of our retail store. Anyone contemplating a trip to town may now write or phone their order and it will be ready for them at the call desk when they ask for it. It is a time saver, use it, particularly when plants are wanted.

Leave your order when you come to town. It will be ready when you call for it.



When you see this sign by the road-side, it tells you A & M Seeds are reliable.

"Please send your catalog to the enclosed names. I want them to get their seed from you, as I have found everything first-class that I have ordered from you."  
(Signed) MRS. J. S. CHRISTIANSON, Calif."

"The seeds you sent us this spring have been remarkable. I am sure every seed has come up and those that are transplanted now are doing fine. We are so pleased with them."  
(Signed) MRS. C. F. SHERWOOD, Calif."

"Your last order sent us was most satisfactory."

"A. E. CARLETON, Amer. Consul, China."  
"A. & M. Seeds are sold locally and I have good success with same. Only odd articles which are not carried make mail ordering necessary. Would appreciate having my name continued on your mailing list."  
A. HEBARD CASE, Kaul, T. H."

### QUICK SERVICE

We aim to give the best service possible at the counter, and in order to do so we must ask your co-operation to the extent that you will have your order ready when you come into the store.

During the planting season there are many customers waiting, and competent clerks are scarce. It is for your protection that we have only experienced seedsmen behind the counter; therefore, be considerate and have your order ready.

Be sure to send an order for seeds so that your name will continue on our mailing list. You will then receive our next catalog as soon as it is from the press:

### Read

This Catalog comprises a list of all vegetables and farm seeds offered by us, all of which have been tried and proven to be adapted to climatic conditions of the Southwest and Mexico. BUT always have in mind, each season, even each month requires not only different varieties of seed, but different strains of the various varieties. For instance, Los Angeles Market Lettuce is the best of all when planted from August 1st to February 1st, but planted at other times is very inferior, while Marblehead and Iceberg Lettuce are best suited to the Summer months. This applies only to the climate of the Southwest. What is true of lettuce will apply also to beans, melons, onions and many other vegetables.

Thus by years of attention to this work we have classified each variety of vegetable according to its best adaptation with regard to soil and climate. The result is that our growers have fewer crop failures.

### A & M Reliable Seeds



### PACKET SEEDS THAT GROW

Look for this case. If your dealer does not carry Aggeler & Musser Seed Co.'s packet seeds, request him to get them, because we do not put our seeds out on commission. Commission seeds are put up and placed on sale throughout the country in August, long before the new crop seeds are harvested. Therefore the seeds are at least one year old before they are put into packets. Our packets are never put up until the new crop seed has been delivered. You are sure to get fresh seeds when you buy them from the AGGELER & MUSSER SEED CO.'S CASE.

"I thank you very much for your seed catalog and am well pleased with it. This year I am a contestant in the Honolulu Star-Bulletin garden contest, and am sure to win a prize with your prolific seeds."  
JOHN ENOS, T. H."

"Your catalog is splendid. I always was pleased with your seeds when I lived in California, and still believe my native state has the best of seeds."  
"MRS. W. S. BOYNTON, Douglasville, Ga."

"Your seeds do grow; that is sure and true."  
"GEO. TURNER, Maui, T. H."

"Your seeds and right soil have led to success. I have best garden in the locality by using your seeds, advice and fertilizer."

"We have had fine luck with all your seeds and plants."  
"FRANK ZAYC, Arizona."  
"N. R. FRICK, Calif."



## ARTICHOKE



### Green Globe (Half-Moon Bay Type)

**REMARKS:** The early artichoke brings a high price; but Southern California climate does not produce them early enough to get this high price, therefore we do not advise planting more than  $\frac{1}{4}$  acre for local market.

The French Artichoke is being canned quite extensively and we would suggest, if you live near a cannery, seek to make a contract to grow the artichoke in sufficient quantity.

The seed may be sown at any time and transplanted when about eight inches high. It will mature in about eight months from time of planting the seeds, but in Southern California the proper season to bloom is in April.

The best way to get a good artichoke is to secure plants from old stalks of some good strain, as seeds cannot be depended upon to produce any certain variety. One-half dozen is enough for a family garden.

Transplant five feet apart in rows seven feet apart. When the young plants are attacked by aphid spray with "Black Leaf 40." About the time the buds are well advanced the under leaves often become a harbor for flies and aphid and ants. When this occurs break off all the under leaves, clear the ground of all rubbish and spray with "Black Leaf 40" and use ant poison. See Insecticide page —. You will then have a long season of large, clean buds.

Pkt. 10c (oz. \$1.20) ( $\frac{1}{4}$  lb. \$4.00) (lb. \$12.00) postpaid.

Plants from good stalks, 20c each; 6 plants \$1.00; 12 plants \$2.00 postpaid.

### THE SEEDSMEN ARE AMONG THE GREATEST UPBUILDERS IN THEIR RESPECTIVE COMMUNITIES

Los Angeles County, California, is, according to the report of the agricultural department, the richest agricultural county in the United States.

Without doubt the largest factor in bringing this about is due to unselfish and painstaking work of seedsmen who within twenty years, either by discovery or by creation and selection, introduced by a system of education, often at great expense, such varieties and types of vegetables that have made it possible to ship them throughout the United States and elsewhere, adding many millions of dollars to the agricultural worth of Southern California; besides, establishing such a reputation that vegetables from Southern California are standard throughout the country.

## A Word About Seed Selection

Twenty-five years ago when little attention was given to building up to a standard type by seed selection and growing in isolated places, in order to avoid cross-pollination, we made one of our greatest achievements when we bred up and introduced the Anaheim Chili, which is now being canned and dried and prepared in many ways for commercial uses, giving employment to thousands.

What we have done with the Anaheim Chili has been repeated with many other vegetables, notably the Pimiento, White Rose Potato, Hybrid and Golden Beauty Casabas; indeed the popular standard vegetables and melons of the Southwest have been introduced by us. Probably the most valuable of all is the Los Angeles Market Lettuce.

"Was wonderfully pleased with the prompt manner with which my small order was filled. Also with the way the seeds have come through the ground. Have ordered seed from two other firms this year, to my sorrow.

(Signed) MRS. JOHN YORK, Calif."

"I planted your seed two years ago and I lost more than \$1000 on melons alone by not sending to you for my seed last year. Please enter my name on your mailing list.

"J. W. DANIEL, Texas"

## Jerusalem Artichoke

**REMARKS:** There is only a limited market for the Jerusalem Artichoke because it is little used for human food, and because of its perishable nature it is advisable that you grow only for your own use.

A border of Artichoke serves as an effective windbreak.



### Jerusalem Artichoke

It is a most valuable food for hogs. It is said by many hog raisers that a hog fed on artichokes has never been known to have cholera. They grow to perfection here, yielding as much as 500 sacks per acre. They are grown from tubers the same as Irish potatoes. It requires 300 lbs to plant an acre. Cut the tubers to single eyes. Plant during March and April two feet apart, in rows three feet apart. Let them grow until fall and allow the hogs to harvest the crop.

The tubers are excellent for table use boiled as potatoes or parboiled and pickled in vinegar.

(Per lb. 25c) postpaid; Write for quantity price.



### Magnolia Street School

Write Department of Agriculture, Washington, D. C., for Farmer's Bulletin No. 936, "The City and Suburban Vegetable Garden."

Write Department of Agriculture, Washington, D. C., for Farmer's Bulletin No. 255. Also No. 818. They are free.

Thanks to the very commendable work of agriculture now directed at the public schools throughout the country, we look to see better conditions prevail in the homes.

Many a capable man with good intentions would have a garden if he only knew the simplest "first aids" to gardening. The next generation will know, and because they know, their homes will be more beautiful, and they will be more prosperous, for a good garden will supply possibly all and more vegetables than the family will consume. A very small plot of ground will do wonders toward giving the family more and better vegetables, besides reducing greatly the cost of living, and making better men and women of our boys and girls.

To encourage this kind of improvement for country homes, that life may be more enjoyable to the newcomer, unaccustomed to the solitude—

To encourage the city wives and daughters to transform unattractive homes into beautiful cozy spots that may well be the envy of their more wealthy neighbors (such beauty spots always proclaim louder than words the refinement and culture of the people living therein).

To encourage the more youthful members of the household and to co-operate with the teachers where gardening is taught— It is to aid this work that we have made of this catalog a veritable encyclopedia for the gardener and rancher.

A good Home Garden will do more to help lower the high cost of living than any other agency. The benefit quickly follows the planting time and is constant throughout the year, besides giving healthful and enjoyable recreation to the entire family. Get busy with your garden at once!



# A & M Asparagus

490 Carloads of Asparagus, Worth More Than \$500,000 Was Shipped Out of California in 1920  
California Has 17,444 Acres Planted to Asparagus, Five Times as Much as the Next Highest State.

Write U. S. Dept. of Agriculture for Farmers' Bulletin No. 820, "Asparagus."

**REMARKS:** No vegetable is more healthful or more palatable than the tender asparagus that appears on the table very early in spring.

Every home garden should have a bed about ten by twenty feet, planting about one hundred roots. This would furnish enough tips from day to day to supply the family table.

Set the rows two feet apart instead of four as for field culture.



A No. 1 Field of Asparagus, Older Than 25 Years

**Argenteuil** An excellent variety for the canner and early shipper. This variety is now more extensively grown by large planters and shippers because it is more prolific and stands shipping better. Also its purple tinge is attractive, and its excellent flavor puts it on an equal with the Palmetto for table use.

(Pkt. 10c), (oz. 20c),  $\frac{1}{4}$  lb. 50c), (lb. \$1.50 postpaid).

**Palmetto** A popular variety for the home garden or for shipping. The sprouts are green and their delicious flavor makes this variety the favorite for table use. (Pkt. 10c) (oz. 20c) ( $\frac{1}{4}$  lb. 45c) (lb. \$1.25 postpaid).

**Asparagus Roots** We have always on hand roots of the Palmetto and Argenteuil varieties. Two year old roots—(per doz. 50c) (100, \$4.00)

Asparagus Knife—Price 90c; by mail \$1.00.

**Asparagus Moss** We always have on hand a large supply of moss for asparagus shippers. Price on application.

## Tapes

### FOR TIEING ASPARAGUS

Spools of 1000 yards, red, white or blue  
\$6.75 per Spool.

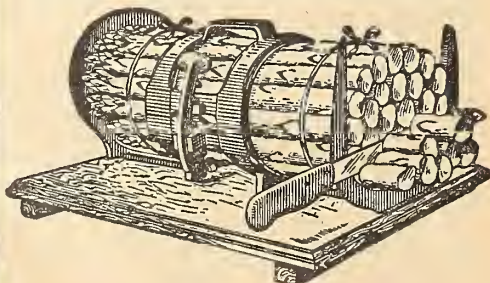
### SUCCESSFUL SEEDSMEN

Successful seedsmen must first of all know their business. Must be honest so that their house will have a reputation for reliability. They must be educators so that their customers can buy intelligently.

Seedsmen must be philanthropists because they not infrequently have opportunities to do the public a great service without reward.

## Prevent Rust

About November 1st cut and remove all top growth and spray the Asparagus bed with Sulphur, using the Anchor Brand.



Asparagus Buncher

## Culture for Field Planting

Drill the seed thinly in rows ten inches apart in your seed bed during March and April.

Transplant about January 1st, setting the roots twelve inches apart in furrows 4 feet apart and twelve inches deep.

Cover with two or three inches of soil, and on top of that three or four inches of well rotted manure thoroughly mixed with soil. This is sufficient for the first season and will produce a marketable crop the following April, possibly March. Continue cutting until the sprouts become too small for the kitchen. Then allow them to grow to full size and spray the whole thoroughly with powdered sulphur during August, using only the best grade. This is to prevent or destroy any mildew, red spider or rust. In November cut the stalks close to the ground and burn them. Fertilize the rows with cheap coarse salt (one ton per acre). Cover the rows in hills like the picture. With proper hoeing and culture the asparagus rows will bear profitably for many years. One pound of seed will grow plants sufficient for one acre.

**Market:** A large acreage is grown for canneries, and in sections where it can be produced very early it is grown for Eastern markets. It is also very profitable to grow for local market.

## "MARTHA WASHINGTON"

### The New Rust-Resistant Asparagus

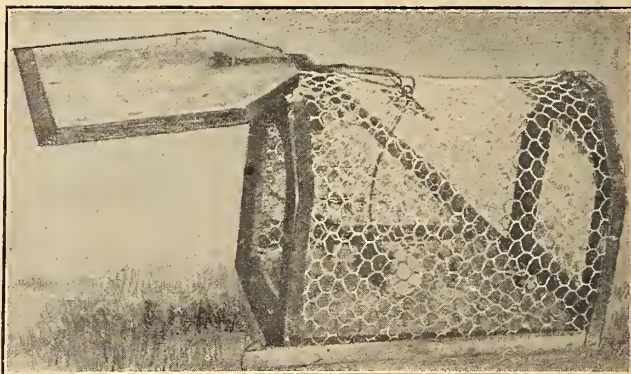
This new pedigreed rust resistant variety was bred up by the United States Bureau of Plant Industry co-operating with the Massachusetts Agricultural Experimental Station covering a period of fourteen years. The name Washington was applied because the original or first acceptable rust proof male plant was given that name and all subsequent prodigies are identified by that name. There are now two other strains known as Martha Washington and Mary Washington. The one we offer is the Martha Washington. (Pkt. 15), (oz. \$1.00) ( $\frac{1}{4}$  lb. \$3.00) (1 lb. \$9.00) postpaid.

We have one year old roots which we offer at (1 doz., 50c), (100, \$4.00) postpaid; (1000, \$30.00) f. o. b. here. Write for price on large lots.

Complying with recommendations of the United States Department of Agriculture, our roots are selected and are not cut back.

Use one year old roots; do not cut them back. When planting see that the roots are well spread out so that the soil will touch every part. If this is not done the plant cannot thrive.

## Squirrel Traps



An ingenious device made by J. S. Miller of La Canada for catching squirrels. A bit of 1-in. mesh poultry wire nailed over a frame. A door with a hinge and trigger.

Note at the bottom a snap that holds the door when it has fallen.

A bit of boiled green corn on the cob is the best bait, but Sweet Potato or other vegetable or fruit may be used.

Mr. Miller caught more than fifty during the first month.

## Asparagus Buncher

We carry the Philadelphia make, which is the popular one with all large shippers. No. 1 size will shape bunches 3-3½ inches in diameter, weighing about one pound. No. 2 will shape bunches 4-5 inches in diameter, weighing about two pounds. Price—(No. 1, \$2.75), (No. 2, \$3.00) f. o. b. here.

Whether your patch is small or large, it will pay you to get an Asparagus Buncher, either one or two pound. All professional shippers put it up that way because it saves the retailer the trouble of weighing and the constant loss of over-weight to each pound; besides, this work may be done at home and not at the busy market.

**Bran Mash for Cut Worms** Paris Green, 1 lb., lemons 3, molasses 2 qts., water 3½ gals., bran ½ bu. Mix bran and Paris Green dry; cut lemons into fine pieces. Mix all thoroughly. See page on Insecticides.



Martha Washington



# A & M Beans

All 10 lb. Lots of Beans \$3.50 postpaid. Write for Quantity Price.

All orders for large quantities that would be cheaper to send by express or freight, we deliver to the transportation company at Los Angeles. We do not prepay transportation unless sufficient money has been sent for that purpose.

Market gardeners who are beginners and not familiar with gardening in the Southwest would do well to consult us either

in person or by mail before buying, as to variety and time of planting. Special attention should be given to the instructions concerning the time of planting, which is an important factor in Southern California, as each month requires a different variety according to the market for which they are grown.



All Peas and Beans are Hand-Picked

## Bean Culture for Home Gardens.

During the early spring give sandy soil preference, but heavy soil in summer. When the ground is properly moistened and pulverized, plant bush beans one or two seeds every four inches, in rows twenty to twenty-four inches apart. If the soil is heavy, one-half inch is deep enough. Plant deeper in sandy soil. During the cool spring months plant shallow; during the hot summer months plant down to moist earth, if it should require five inches. Do not plant in muddy soil, nor irrigate immediately after planting, else the seed will rot. During the winter months do all irrigating in the morning, because the water from the pipe is warm and will help the growth. When applied in the evening the water chills the plants, cools the soil, retards the growth and causes mildew. During hot summer days irrigate or sprinkle in the late afternoon.

Mulch the soil as soon as it gets dry after each irrigation. All beans should be sprayed with powdered sulphur of the best grade twice during the season—once before the blossom appears and again just before the green bean is ready to pick. Apply the Anchor brand of sulphur in the morning of a bright sunny day before the wind rises, and before the dew has dried. It is not necessary to cover the foliage with sulphur thick enough to injure it, but if sulphur is scattered along the row so that the dust will pass lightly over the field, the fumes created by the heat of the sun will prevent mildew.

Sulphur will not cure, but will arrest and prevent mildew. Market gardeners should read carefully the description of each variety.

Anyone having light, sandy soil that needs enriching, should plant it to beans, inoculating the seed with nitrogen culture.

The hand picking of seed beans is a task of large proportion and it may surprise you to know that we have employed almost throughout the entire year, six or more persons constantly hand-picking beans and peas.

The following list comprises all the varieties best suited to general gardening. We have ceased to catalog others that would only mislead the gardener.

Write for quantity prices on all beans.

## FLAT YELLOW POD VARIETIES

**Ventura Wonder Wax** Nearly all agree that this is a wonder indeed. Long flat pod, very prolific; bears early, and continues nearly all summer; planted in September, if not too cold, bears until January, being rust proof. This bean was introduced by us in 1900, and has been the market gardener's favorite since that time. Plant from February to October. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid. Write for quantity price, as prices fluctuate.

### Rust Proof

"In a field of Ventura Wonder, were some Navys mixed here and there. The Navys were destroyed with rust but the Venturas were unaffected."

Mrs. H. L. Ross, Seattle, Wash., writes as follows:

"Have now raised Ventura Wonder Beans in California, Hawaii and Washington, and find them equally prolific in all three places. Had six crops from same vines last season, one planting being all that was needed all summer."

### GROWING GREEN OR WAX BEANS FOR THE CANNERY

It is a good side-crop to grow in a young orchard to make quick returns, because your crop is off and the ground available for another crop within ten weeks, besides it enriches the soil.

**Our Golden Wax** Long, flat pod, rich golden yellow, stringless. This variety is so superior to other strains of Golden Wax that we have discarded all but this. Plant early in April and until August. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**Davis Kidney Wax** Good bearer; pods are long, rustless and hardy; very tender when young. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

This is the best Garden Bean for the interior, Imperial Valley, Arizona and New Mexico, because the blossoms will not fall even at a temperature of 110 degrees, when most other varieties fail, the Davis will yield a big crop.

## FLAT GREEN POD VARIETIES

**Canadian Wonder** Flat pod of good flavor, not stringless, but otherwise tender. Very hardy. Desired above all others by gardeners growing on the foothills for winter shipping, because of its luxuriant growth and continuous bearing of long, straight pods. Plant in September, October, November, December and January, according to your locality. (Per pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**Dwarf Horticultural** Desirable both for green and dried beans. Stringless and of excellent flavor. It is of Italian origin and is very popular with the Italian population. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**Six Weeks** Flat pod. Only desirable for forcing. Plant in February and March, also early in September and October. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50).

**Longfellow or French Stringless** Attractive, long green pods of Excellent Quality. This perfectly round, green podded bean is tender and prolific, and is one of the best varieties for the home garden. The pods are of fine quality, nearly stringless and exceedingly handsome. In production, very prolific; exhibits a profusion of highly beautiful, rich green pods, 7 to 8 inches long, straight and round. When cooked the flavor is decidedly delicious. The plant grows 14 to 16 inches high, bearing edible pods in 35 days. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**French Mohawk** Long oval pod, very tender and prolific. Matures in six weeks. Desirable for a profitable short crop, as only two months is required from seed time to the end of the crop. Plant every month from March to October. (Per pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

## ROUND YELLOW POD VARIETIES

**Stringless or Refugee Wax** This is a favorite because of its hardy growth and enormous yield of tender, round stringless pods of excellent flavor. Plant from April until September. (Per Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**Prolific Black Wax** Pod round straight, five to six inches long. Decidedly the most desirable for mid-summer gardening. Plant from April to August. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**Baldwin Wonder Wax** A very prolific wax-podded variety which we recommend for the home garden and especially for home canning because of the beautiful waxy pods. The round fleshy pods are entirely stringless, very brittle and of exceptionally good quality. Do not fail to include this variety in your home or school garden order. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

## Information

"Last spring I took from off your counter a packet of each variety of beans and planted them in loamy soil on the bluff at Laguna, about ¼ mile from the ocean. The results were as follows:

"The White Seeded Kentucky Wonder yielded many times more than the bush varieties, and was the earliest of the pole varieties. The Ventura made the best showing of the wax beans.

"The French Mohawks and Canadian Wonder far exceeded in yield of the green pod bush beans, but the Green Pod Refugee held out the longest and suffered the least from mildew. The Golden Wax was the earliest of all. All varieties grew luxuriantly and to great perfection, although they received no irrigation except the inch of rainfall during May. Each packet planted abundantly about thirty feet of row and there was not one failure.

"O. B. HUTCHINS."



## BUSH BEANS—Continued



Stringless Greenpod

### ROUND GREEN POD VARIETIES

**Stringless Green Pod** One of the best varieties for the first early spring planting. It is very prolific and tender, a great favorite with market gardeners, for a quick maturing crop. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**Stringless Refugee** This variety is a decided improvement over the old refugee in that it is entirely stringless, somewhat larger pods and more prolific, which is claiming a great deal, for the Refugee bean has long been considered one of the most prolific of all string beans. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**Early Refugee or 1000 to 1** An all around favorite for the summer months. Round pod, medium size, tender, desirable for table and cannery. It is a favorite with the market gardener because it is a good shipper, a good seller, and very prolific. Plant from April to August. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

#### RELIABILITY OF SEED

A professional grower always rogues out all plants that are not true to the type of vegetables he is growing. An unprofessional grower never does this, but often sells the best marketable vegetables, allowing only the unmarketable culls to go to seed with the weeds because he has not had time to destroy them.

An unprofessional grower has no reputation to maintain; often no responsibility, and too often grossly dishonest, misrepresents where variety cannot be distinguished by appearance in order to get the higher price of the better variety.

#### READ THIS

We are continually getting letters of inquiry for just such information as is given in this book. We are pleased to get the letters, but if the writers would first look to the subject of their inquiry, they would in many instances save themselves trouble and time.

### Read

We have studiously avoided listing numerous varieties carefully eliminating those of lesser value and cataloging only the best for each season and each condition of soil. Therefore, when making your selection you need not hesitate to choose those best suited to your local conditions, and if a market gardener note what your trade wants and read the description carefully before you decide.

Each year our attention is called to many new and novel vegetables. We are always interested and appreciate the courtesy. If after a careful investigation we find any new thing better than that which we already have, we then offer it through the medium of this catalog with an appropriate endorsement.

It is our aim to offer only that which we know to be the best of its kind for the purpose for which it is recommended.

You need look no further, the best of everything is listed here.

## POLE BEANS

**A Word About Pole Beans** Many growers hesitate to plant pole beans because of the scarcity of poles. This objection is easily overcome, and the greater profit in growing the pole varieties should be sufficient reason for going to a little extra care.



A Good Way to Train All Pole Beans

**Horticultural Pole** Also referred to as Romaine, Cranberry, Italian and Cornfield. Its large succulent tender pods make it a desirable bean for the table. It is also one of the most desirable green shelled beans for succotash and excellent as a dry bean. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**White Creaseback** This variety is especially valuable for its extreme earliness, and its habit of perfecting all its pods at the same time. Vines small but vigorous, and, in good soil, wonderfully productive, bearing pods in clusters from four to twelve. Pods medium length, silvery green, of the best quality as snaps and stand shipping better than most sorts. The seed is small, oval, very white and hard. It is an excellent bean to cook dry or to sell on the open market as the small white bean. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**Lazy Wife** One of the best pole beans for snaps. The large, fleshy pods are five to six inches long and entirely stringless when young, have a rich buttery flavor. When nearly matured they are delicious when shelled and cooked while yet green. The dry beans, too, are unsurpassed by any. The seed is white, nearly round, and somewhat bigger than a pea. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**The Scarlet Runner** An old-time favorite that heretofore has been planted chiefly for ornamental purposes. But few people know that the Scarlet Runner may be planted May 1st and in six weeks attain a height of eight feet, and rapidly cover an arbor with vines twenty feet long.

The Scarlet Runner planted May 1st will bear edible pods from July 1st until late fall. When the vines mildew trim them back to within a foot of the ground. The roots will survive the winter, and by the following May will have the arbor again covered and bear green beans until August, when the vines again Mildew. Cut back as before and with proper irrigation they will bear another crop in October, and so on, two crops a year indefinitely.

Be sure to build a permanent arbor, and plant some Scarlet Runner during April. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs., \$3.50) prepaid.

## ADVICE

Watch for the slightest indication of mildew. When it appears, spray with the Anchor Brand of Sulphur. This will not only arrest any further advance of mildew, but it will fertilize the soil and destroy any germs of Fungi that may be there. It will also eradicate Nematode. For application use the American duster.

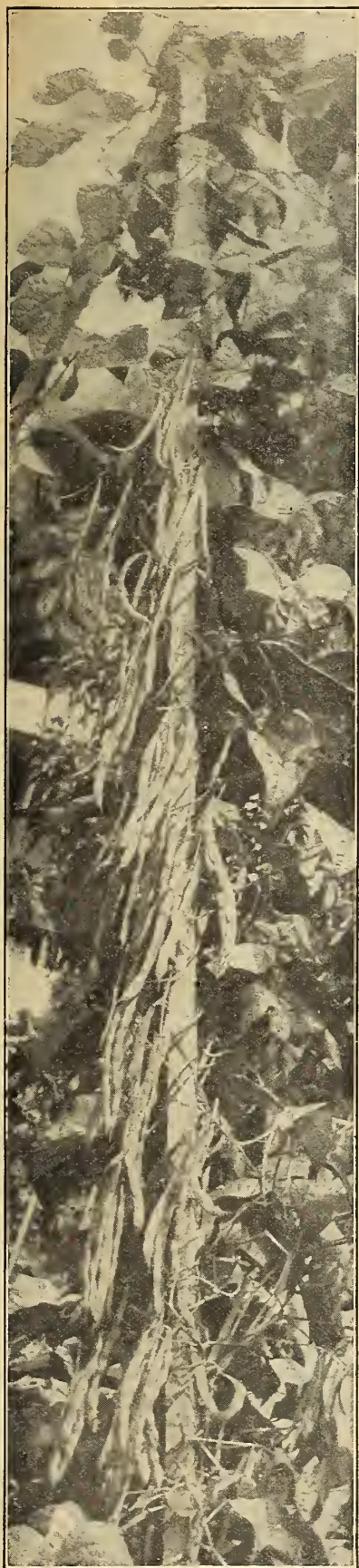
## A Compost Pit

Do not burn any dead Bean vines or other vegetation, but dig a pit about two feet deep, in some out of the way place. Put into it all vegetation from which the crops have been gathered. Add to it all the chicken manure and ashes, also some lime and Toro Sulphur. Mix it thoroughly occasionally so it will not overheat. This will give you without cost all the fertilizer you will need for your garden. Do not neglect this.

The Sudan, Schrock Kaffir and Jerusalem Artichokes I received from you last spring were the best seed I ever handled. I have started a homestead here; being a cripple, I made progress slowly, but next year I expect to put in about fifty acres, and all A. and M. seed for mine. Thanking you for past favors and assuring you of my future business,

(Signed) MIKE J. A. CANOLE, Calif."





White Seeded Kentucky Wonder—Actual Size

## White Seeded Kentucky Wonder

This variety of the many pole beans may truly be termed the All-Round Money-Maker. It is as hardy and rust resistant as the Canadian Wonder. In the South where earliness and lateness mean so much to the market gardener, the White Seeded Kentucky Wonder is far ahead of other varieties. It is enormously prolific of firm pods that withstand shipping to almost any part of the United States. It matures ten days earlier than the Brown Seeded Kentucky Wonder.

The illustration on this page is from a photograph of a single matured vine showing how prolific it is.

The seed is pure white, and on that account is a profitable commercial bean. It is the best bean for the gardener, the shipper and canner. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

MRS. NEILSON, Burbank.

I purchased of you fifteen cents worth of Kentucky Wonder Beans and planted 4 rows 60 feet long. I gathered 380 pounds of green beans. They were trellised with 4 ft. lath.

## Celestial or Yard Long

A good table bean as well as a curiosity. It is very prolific and a rank grower. Should have ample arbor to climb upon. It should be grown more extensively in the home garden. It is of Chinese origin and one of the best vegetables emanating from that source. It is also absolutely rust-proof. (Pkt. 10c) (1 oz. 20c) (1 lb. \$1.50) postpaid.

## Superior Kentucky Wonder

We have been growing this bean on our trial grounds for two years, and are now convinced it is superior to any of the other Kentucky Wonder types offered by us.

The large size pods fill perfectly and in the "snap" stage are deep green color, meaty, stringless and of a delicious flavor. Vines continue to bear immense quantities throughout the season if kept picked closely. When allowed to ripen the shell beans of pure white color are most excellent for winter use. It is a pole snap bean that no home garden should be without. It's the one pole bean for any garden, and you will never regret planting it. It will prove a prize winner in any contest. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) postpaid.

MR. POSTELL, California.

I got some "Superior Kentucky Beans," will say in advance that no bean can compare with them. I planted the beans and after using all the green beans we could I got 4 lbs. dry beans from 3 hills. In July I planted the seed I had grown and just six weeks to the day the dead vines were pulled out. I will leave this open for some contest. I got two crops from the Monstrous Lima bean and nearly all perfect seeds average 1½ inches long, but the foliage got so dense I cut them out.

"The Superior Kentucky Wonder Beans that I grew from your seeds last year were the finest I ever saw; 10½ inches long and about twice as wide as your illustration, the largest one weighing one and a half ounces.

(Signed) "MRS. C. L. PRYOR, California."

**Kentucky Wonder** Long, round pod. This is the most popular bean in Southern California, because here it grows to perfection; it is more prolific than any other variety, which, together with its other good qualities makes it the gardener's delight. Plant from April to July. Do not plant later than August, as it is very prone to rust during the month of September. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**Kentucky Wonder Wax** The Pride of the Garden. Its popularity as a home garden bean soon reached nationwide proportions, and today is offered by nearly every seedsman in the United States. It commences to bear when scarcely higher than the average bush variety, and keeps on producing until killed by a frost. It is a rampant grower, one plant filling a pole with a mass of vines densely loaded with luscious beans. They are firm, entirely stringless, and when cooked, deliciously rich and buttery. The seed is brown, closely resembling that of the Kentucky Wonder. Plant from April to August. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

## A Word About the White-Seeded Kentucky Wonder

This popular Bean was first introduced by us in 1909. Because of its resemblance to the well-known Kentucky Wonder, but having white seed, we named it the White Seeded Kentucky Wonder. It proved to be all that we had claimed for it, so that it is now the most popular green Bean on the market. It is preferred by the shippers because of its solid pods, and by the canners for the same reason. The grower prefers it because it is a good seller and a money-maker.



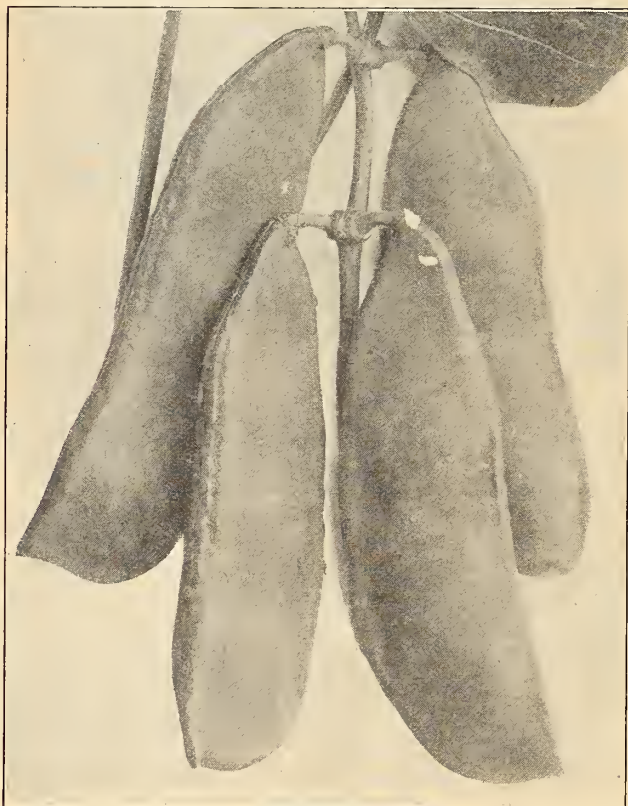
## Bush Lima Beans

### SPECIAL FOR MARKET GARDENERS

The Bush Lima cannot be recommended too highly. The beans can be grown and gathered much more easily than the pole limas as the vines require no support. They can also be grown closer together. Dwarf limas are fully equal in quality to pole limas and as a rule are earlier maturing.

Limas require a longer season for maturing than other garden beans. Do not plant till the ground is warm and danger of frost is over. If possible select rich, light soil. Plant in drills two to three feet apart, dropping the beans three to four inches apart and covering one and one-half to two inches deep. Hoe often, but only when the leaves are dry.

### Fordhook is the Gardener's Favorite



Fordhook

**Fordhook Bush Lima** In order to get the best results, plant one foot apart in rows 3½ feet apart. It is an improvement over the well known bush Lima because it is more prolific. It is a strong grower, more resistant to blight, and is more profitable to grow for the market because the pods remain green. This is of great advantage to the peddler, retailer and shipper. It has received universal praise. We recommend it to our customers for both home and market gardens—for the home garden because of its excellent flavor and productivity; for the market gardener because it is demanded by the shipper and consumer. (Pkt. 10c) (½ lb. 25c) (lb. 40c prepaid) (10 lbs. \$3.50 prepaid).

**Improved Bush Lima** This bean differs from the old bush variety in being ten days earlier. Will yield one-fourth more tonnage per acre. The pods contain four to five beans that are larger and thicker than the old bush lima. Where the Improved Bush Lima is known the old variety is no longer in demand. (Pkt. 10c) (½ lb. 25c) (lb. 40c prepaid) (10 lbs. \$3.50 prepaid).

**Henderson's Bush** Small white Lima Bean, of excellent flavor and enormously prolific. It is grown so extensively here that it ranks commercially with common limas and other commercial varieties. It is used largely for canning. (Pkt. 10c) (½ lb. 25c) (lb. 40c prepaid) (10 lbs. \$3.50 prepaid). Ask for quantity price.

**Burpee's Bush Lima** This bean has become very popular in all irrigation districts because it is earlier and more easily grown. There are no vines in the way when irrigating and cultivating. It is enormously prolific and keeps bearing a long time. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid. Write for quantity price.

## Monstrous Lima

There is nothing more profitable in a city garden than a dozen stalks of this wonderful bean. It is a common occurrence for our city customers to tell us of its great productiveness and excellent flavor.



This is not a vineyard, but a field of Monstrous Lima Beans planted eight feet apart each way. Grown without irrigation at Laguna Beach.

The grower picked one and one-half barley sacks of green beans from one vine at one picking.

Two crops a year for many years. Originated in Orange County, Cal. Introduced by us in 1907. This picture shows actual field growth of the bean.

In addition to this we have numerous testimonials to the effect that we have not exaggerated when we claim this to be the largest, most prolific, most profitable and best flavored Lima bean now in existence. Like every other vegetable, it must have proper culture. Plant 6 feet by 6 feet, leaving one stalk in each hill. If convenient, plant in a sheltered place about April 1st. You will then be gathering beans during September and possibly until January. After a while new growth will appear, then prune as you would a grape vine, and by May 1st you have a new crop as profitable as peppers or string beans or any other early vegetable. During July the vines will show age and become mildewed; prune as before and in October you will begin gathering your third crop. Continue pruning twice a year; irrigate and fertilize. (Pkt. 15c) (½ lb. 35c) (lb. 60c prepaid) (10 lbs. \$5.50 prepaid).

## Lima Pole Varieties

In California the 1920 Crop of Beans was 180,000 Acres, Valued at \$13,500,000.

**Pole Lima** Pole varieties of Limas are far more profitable to grow than the bush varieties; what they lack in earliness they make up in continuous bearing. They should be planted from April 1st until September 1st.

**The Skillman Lima** This bean has been the market gardener's favorite for many years. It is a cross between the Burpee's Bush and the common lima. It will produce five sacks more per acre than the common lima. Each year we carefully hand-pick our seed stock, selecting only the true type of seed. There are no rattlers in the Skillman. (Per pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**King of the Garden** Very prolific; large and desirable both for the home garden and for the market gardener. (Per pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**Early Leviathan** We recommend this variety to be planted where it may have a trellis to climb upon. It is the ideal lima for the home garden. It is very productive. The pods grow in clusters. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**Broad Windsor** This variety is often called the tree bean because it differs from all other varieties in the nature of growth. It is not a vine or bush but one up-right stalk bearing pods at the axil of each leaf, continuously maturing from bottom to top throughout its period of growth. It is used largely as a green shelled bean. The best time to plant it is in September, because it thrives best in cool weather. It endures frost. (Pkt. 10c) (lb. 30c prepaid).

It is one of the best nitrogen gathering legumes, and on this account every garden should have a plot of these beans.

We are indebted to Mr. John House for the suggestion that when grown in the home garden, the tops should be pinched off. The beans will become more fully developed.

## Grow More Plants

You will derive much pleasure and profit if you will grow plants and sell them to your neighbors. Few home gardeners have the experience, equipment or time for growing vegetable plants for their own garden, and they are willing to pay well for good plants. The plant grower's experience in selection of varieties is also a help to the home gardener, who, in time, develops great confidence in the judgment of a conscientious plant grower.

Build up a reputation for yourself in this line; it will prove profitable to you.



# Commercial Beans

**Bean Culture** Address: College of Agriculture, University of California, Berkeley, California. Ask for Bulletin No. 294, entitled, "Bean Culture in California." It is thoroughly Californian and complete in every detail from preparation of the soil, planting, cultivating, harvesting and marketing.

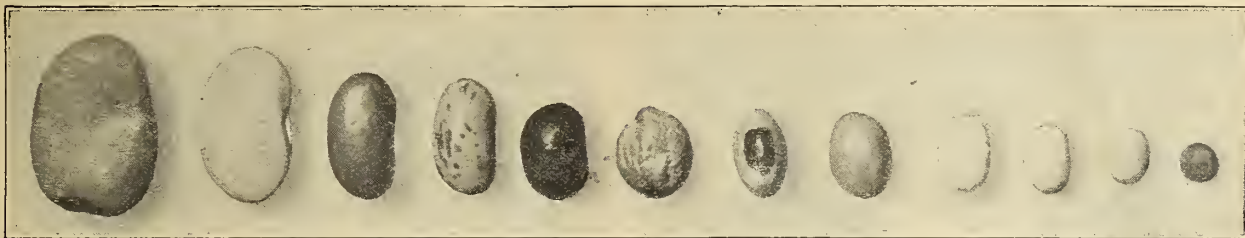
If you are interested even in a small way it will prove both interesting and valuable.

Also write United States Department of Agriculture, Washington, D. C., for Farmer's Bulletin No. 907. It contains some practical illustrations. They will be sent free.

Owing to the importation of cheap beans from the Orient there is little encouragement for the American grower. The consuming public get little benefit in price from the imported bean; this advantage goes principally to the importer who fixes the price just low enough to discourage the American grower. It may be, through the Agency of the American Farm Bureau Federation there will be organized influence enough to bring about some constructive legislation in the way of protective tariff.

Aside from growing beans commercially, the grower should consider the benefit derived from growing beans other than a good selling price. Beans fill nicely in crop rotation; whether grown for green beans or dry beans, or only for green manur-

ing, they enrich the soil for a subsequent crop. It is a quick growing crop. For green manuring it may be plowed under within eight weeks; for green beans it is ready in ten weeks; for dry beans the crop may be harvested and marketed within four months. All this means that from April 1st until September 1st it is safe to plant beans, according to the purpose for which you are growing them. For an early crop of green beans, plant Stringless Green Pod; your ground is ready for the next crop within ten weeks. If you would grow commercial beans plant the variety best suited to your soil conditions. If for green manuring the Whip-poor-will seems best where moisture and growing conditions are favorable; the Tepary where these conditions are unfavorable.



Reading from left to right:—Broad Windsor, Lewis Lima, Red Kidney, Pinto, Pink, Garvanza, Blackeye, Mexican Red, Lady Washington, Navy, Tepary, Lentil.

Be sure to consult us when in the market for these varieties.

If only one pound is desired, send 25c to cover packing and postage. For larger quantities, ask for the prevailing prices.

Ask for price at the time of purchase. Because of the close margin at which this seed is sold, no price can be set in advance of the daily market. We have the best cleaning facilities on the Coast. All our seed is re-cleaned and even hand-picked when machinery fails.

All commercial beans should be planted in large acreage. It is easier at any time to dispose of a carload than less, and more profitable to the out-of-the-way grower who must always pay the freight to some central warehouse. It is advisable for the small rancher when contemplating the planting of beans to agree with his neighbors to jointly plant not less than eighty acres, as it requires 80,000 pounds to make up a carload for Eastern shipment.

It often requires fifty cents per hundred pounds to ship small quantities to a warehouse, whereas a carload would be shipped direct from your nearest siding at no cost to you, thereby saving to you and your neighbors four hundred dollars on each carload.

**Early Washington** This new bean was introduced into Tulare County two years ago. It is ten days earlier than the Lady Washington, is more resistant to mildew and yields several sacks more beans per acre. The appearance is the same, but by every comparison this early bean is better than the well known Lady Washington. So much better that all of the first crop was sold to neighbors at fifty cents per pound.

**Pink** An old time favorite because it is very prolific, has a good flavor and is one of the best sellers. It is safe to say that no grocery store in the country is without the Pink bean. It is always listed in the market quotations.

**Red Kidney** Like the Pink and Navy beans it is sold everywhere and commands a higher price because of its better flavor. It is grown largely for canning. It is easy to grow, easy to thresh and does not pop in the field. The long straight pods bear six to eight beans. This bean is also harder than the other varieties, on that account is often planted late for green beans, the pods of which are tender when grown during the winter months. (lb. 35c) (10 lbs. \$3.00) post-paid.

**Mexican Red** The Mexicans do know beans, and this is their favorite. When tourists return from Mexico they at once ask our grocers for this Red bean. Americans who have lived in Mexico for a time are not content without this bean. There is a ready market for it at our wholesale grocers, who supply the great southwest territory with groceries. Plant some for your own use.

**THE WHITE WONDER** A new White Bean of great merit as a string bean for the home or market garden or a commercial bean for the large grower. The bean that will thrive in any condition under which the Pinto will grow or where the Navy will fail.

DO NOT FAIL TO GET SOME OF THIS NEW BEAN

"The White Wonder Beans I got from you this spring are doing fine under the most adverse conditions. They are setting a fine crop where I am sure other beans would fail entirely."  
"M. S. RODGERS, Calif."

**The Lewis Lima** This common lima is grown so largely in California that it easily exceeds in acreage of all the other varieties combined. There are many strains of the common limas, but the Lewis is conceded to be the best. Our seed is all carefully rogued in the field and hand-picked under our supervision at our warehouse. You will find no splits nor rattlers in our seed. It is a short-sighted policy to buy cheap seed from grocers.

**Lady Washington and Navy** These two varieties go hand in hand. Both are small white beans, but the Navy is slightly smaller and is often distinguished by being called the Small White, while the Lady Washington is called the Large White, yet the largest is a scant half-inch long, while the Navy is scarcely more than one-fourth inch long.

The Navy is more rust resistant.

**Pinto** This bean, originally from Siberia, is of such excellent flavor and quality that it has supplanted the pink and all other old time favorites.

Its popularity is also because of its adaptability to arid climate, high altitude and unfavorable soils.

**The Blackeye** This bean is always profitable to the grower because it yields 1500 to 2500 pounds per acre without irrigation, and on almost any kind of soil. It is a good cover crop and soil renovator. The beans find ready market at a fair price. Rabbits will not eat the Blackeye.

The Blackeye is in a class by itself, and the price is not governed by the market for other beans. Indeed the price has proven to be the reverse. When commercial beans are low the Blackeye commands a higher price. It is safe to plant Blackeyes because you always get a crop, and you never fail to sell at a fair price.

If your soil needs humus, plant Blackeye.

## Notice! Bean Growers!

An application of two or three sacks of Toro Sulphur per acre will greatly reduce your losses from mildew and nematode, and will greatly increase your yield. Give it a fair trial.



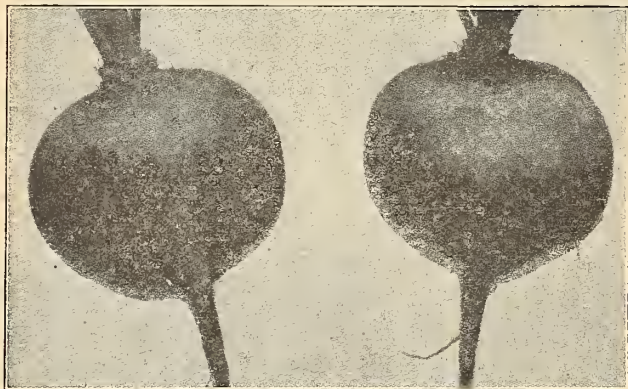
## A & M Table Beets

**MARKET:**—Besides the everyday demand at the local market places, there is the seasonable demand from outside points and for this purpose planting should range from August 1st until January 1st. See the shipper for further information. The canneries too use a large acreage. If you are conveniently located you will be fortunate to secure a contract with one of them.

**Culture** Beets may be planted all the year round where the temperature does not linger below 25 degrees. Sow the seed one inch deep in well prepared, moist soil in rows eight or ten inches apart, or on ridges same as lettuce. Drill eight pounds of seed per acre. Thin out to one plant every three inches, and transplant the discarded plants in any convenient spot about the garden. The Egyptian is a small, dark red, flat, smooth variety. It is sweetest and best for the table. Irrigate about every two weeks, unless the nature of the soil is such that more frequent irrigation is found to be necessary. Mulch the soil after each irrigation. Beets are ready for use in ten weeks and continue in prime condition for another ten weeks. Two ounces of seed for 100 feet of row.

**Early Flat Egyptian** The market gardener's favorite on account of its beautiful appearance, earliness, and excellent flavor. (Pkt. 10c) (oz. 20c) (1/4 lb. 45c) (1/2 lb. 65c) (lb. \$1.25) postpaid.

**Early Blood Turnip** Of large growth. Flesh very tender and retains its blood-red color when cooked. On account of its tall leaves it is a favorite summer time beet with market gardeners. (Pkt. 10c) (oz. 20c) (1/4 lb. 45c) (1/2 lb. 65c) (lb. \$1.25) postpaid.



Crimson Globe

**Crimson Globe** This splendid variety has now been grown quite extensively in many sections of the country and the many good reports received from old customers indicate that it gives most thorough satisfaction. It is of medium size, generally about three inches in diameter, very handsome in shape, with a remarkably smooth surface. It has a very small tap-root. Gardeners prefer it for summer planting because the large foliage protects the beet. (Pkt. 10c) (oz. 20c) (1/4 lb. 45c) (1/2 lb. 65c) (lb. \$1.25) postpaid.

**Early Crosby** A long time favorite for the family garden. (Pkt. 10c) (oz. 20c) (1/4 lb. 45c) (1/2 lb. 65c) (lb. \$1.25) postpaid.

**A & M Bassano Beet** Excels all other varieties for table use. Its delicious flavor, entire absence of fibre, smooth, symmetrical shape and small root puts it in a class by itself for all-round good qualities. The market gardeners have recognized this for years and many will have no other. (Pkt. 10c) (oz. 20c) (1/4 lb. 50c) (1/2 lb. 75c) (lb. \$1.50) postpaid.

**Detroit Dark Red** This is an ideal beet for all purposes. It cannot be excelled for the table; free from all fibre and very sweet. It is the best of all for pickling. Even the tops are good when pickled. (Pkt. 10c) (oz. 20c) (1/4 lb. 45c) (1/2 lb. 65c) (lb. \$1.25) postpaid.

When beet tops are young and tender they may be cooked as spinach and are as good. The stems may be par-boiled and pickled for immediate use.

### THE DUTIES OF SEEDSMEN

The seedsmen's duties do not end with the buying and selling of seeds; he must educate the customer. Probably more than 75% of the errors and disappointments are because of the lack of knowledge on the part of the buyer who has seen good results of certain crops and fails to note the time of planting, climatic and soil conditions under which these crops were grown. He buys and plants the same kind of seeds, probably out of season and under his own conditions, which may be entirely different, with the result that there is whole or partial failure which he promptly attributes to inferior seed.

Therefore it is the seedsmen's duty to safeguard the customers against such error by advising them to plant the right seed at the right time under right conditions.

Read this Catalog. You will find much information that may help you succeed.

## A & M Stock Beets

Since the coming of the silo, the planting of beets for stock has fallen down until now only a very small acreage is planted. The silo provides the succulent food necessary to feed with dry forage. The growing of corn for the silo is much more economical, but to the breeder of hogs, small stock and poultry, we recommend the planting of beets. The Stock Beet is one of the finest fat and milk-producing crops we have today, and when fed in conjunction with grain they are worth nearly as much, pound for pound, as the grain itself.

If larger quantities are desired, do not fail to write for special prices, as all field seeds are subject to market fluctuations.

**Culture**—May be sown all the year round in drills sixteen inches apart. Thin out to stand six inches apart in rows. Keep well cultivated; 8 pounds of mangel, or 10 pounds of sugar beet seed will plant an acre and yield 20 tons or more of beets.

### Half Sugar Rose

A distinct type of Sugar Beet, producing not only a good crop, but roots of giant size and richest food quality. It has yielded 55 tons per acre, several tons per acre more than the heaviest producers of other sorts on the list. They have a small top, and are easily trimmed. The roots are heavy, but are so easily harvested that they may be uprooted by a push of the foot. The flesh is white, solid, tender and very sweet and imparts a rich, pleasant flavor to dairy products when fed to milch cows. Also particularly good for fattening hogs. Half Sugar Rose is a profitable Stock Beet to grow. (Pkt. 10c) (lb. 70c) (10 lbs. \$6.50) postpaid.



Long Red

### Long Red Mangel

The largest Stock Beet. Yields 40 to 50 tons to the acre. Will grow in land containing more alkali than any other beet. All stock except horses eat it readily. (Pkt. 10c) (lb. 70c) (10 lbs. \$6.50) postpaid.

### Golden Tankard Mangel

Contains more sugar and less water than any other Mangel. Rich in milk-producing qualities, hence a favorite with dairymen. Horses will eat it. (Pkt. 10c) (lb. 70c) (10 lbs. \$6.50) postpaid.

### Klein Wanzleben

(Sugar Beet). This variety is without question the best in cultivation. Not the largest in size, but the richest in saccharine. It will fatten hogs as quickly as grain. (Pkt. 10c) (lb. \$1.00) (10 lbs. \$9.00) postpaid.

### Sludstrup

This variety is more extensively grown in Holland by dairymen than any other. Its uniform growth of large, well-shaped beets rich in saccharine. Its record for producing rich milk and sweet butter, has made it



Half Sugar Rose

the popular beet of that country. We are always on the lookout for something better to offer our trade. We are sure you will add dollars to your dairy by planting the Sludstrup. (Pkt. 10c) (lb. 70c) (10 lbs. \$6.50) postpaid.

The Nematode thrives in beet fields, causing much loss to the grower. Toro Sulphur promises relief. Try it.



## A & M SWISS CHARD

Culture—Same as for beets; transplant 12 inches apart in rows 18 inches apart.

Grown for its leaves only; one of the best early greens. Cook the leaves as you do spinach and the stems in cream as asparagus. Leaves grow to enormous size, 20 inches to 2 feet in length. The plant is almost perpetual if kept trimmed, but it is better to have a new crop every year. The tender leaves make it a desirable plant for poultry greens; much more desirable than alfalfa, because it can be grown with less care and in any convenient place about the premises. Try it for your hens.



White Swiss Chard

**Lucullus** (Pkt. 10c) (oz. 20c) (¼ lb. 65c) (lb. \$2.00 postpaid).

**White Swiss** (Pkt. 10c) (oz. 20c) (¼ lb. 60c) (½ lb. \$1.00) (lb. \$1.75 postpaid).



Brussels Sprouts

## BRUSSELS SPROUTS

Culture—Same as Cabbage.

Market:—The demand for Brussels Sprouts is probably in excess of the supply, but the cost of production is so high that it must be classed as a luxury. We recommend it highly for the home garden.

One oz. of seed will produce about 5,000 plants.

For Aphid—Spray with "Black Leaf 40."

This excellent vegetable, considered the most delicious of all the cabbage family, is finding increased demand in the public markets, and should be grown more largely. It is a long season grower and ranks as to time with our late varieties of cauliflower. Therefore, seed should be planted for succession from July 1st until Nov. 1st.

The increasing demand has spurred us on to look for something better than has hitherto been offered on this market. We have succeeded in securing a medium dwarf variety that bears larger heads, and every joint a head. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00 postpaid).

## BROCCOLI

A Hardy Strain of Cauliflower

The acreage planted to Broccoli is being enlarged each year; growers find that it endures lower temperatures and more adverse conditions than Cauliflower. It is slow to mature, therefore the seed should be planted during July for an April harvest.

The fact that many growers are securing a satisfactory profit should encourage the planting of larger acreage.

ST. VALENTINE is the variety we first offered several years ago, and is proving entirely satisfactory. It is practically the only variety grown throughout California. One grower says "It is a sure header and comes into the market after the Cauliflower is all shipped. (Pkt. 15c) (oz. \$1.50) (¼ lb. \$5.00) (lb. \$15.00) postpaid

## A & M CHINESE CABBAGE



Chinese Cabbage

Culture—Grow it as you do lettuce; transplant 10 inches apart in rows 12 inches apart.

Boiled with beef or pork it is excellent, having a much more pleasing flavor than cabbage. The inner leaves make better cold slaw. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.65) (½ lb. \$2.50) (lb. \$5.00 postpaid).

Our seed is imported. It is the genuine article as pictured here and cannot be compared with the Pe-Tsai seed grown in Europe

## Agriculture is a Science

The successful grower of the "Great Southwest" is an expert in his line. He has all the United States for a market during the winter months, and all the arid Southwest in the summer time. He must consider well his soil, be an expert in the selection and use of fertilizers, in the selection of his seed suited to his soil, to his climate, to the time of planting and the market for which he intends to grow. He must know to perfection when to irrigate, to cultivate, and when not to do so. He must study insecticides, know what, when and how to apply them. He must not only keep posted as to market conditions and prices, but must figure ahead on these conditions.

When giving consideration to approximate yields and values, take into account the cost in labor, irrigation, time to mature, and expense of marketing. All these figure in determining the net profit. Then consider too the adaptability of each crop to your soil and the purpose for which the crop is intended. All must be considered when deciding the advisability of planting field crops.

When in doubt buy Aggeler & Musser's seeds, and always consult AGGELER & MUSSER SEED CO. on all the above subjects. And keep this catalog.

Notice in this picture the method of planting two rows on a ridge. It is now generally practiced by the large gardeners, and should be applied in the home garden. The drainage this method affords produces cleaner, better and earlier vegetables.



The proper way to grow vegetables where irrigation is necessary  
The following is a list of vegetables that should be planted the way we have illustrated in the picture:

Beets	Carrot	Lettuce	Parsley	Radish	Spinach
Chard	Kohl Rabi	Onion	Parsnip	Salisfy	Turnip



# A & M Cabbage

Write University of California, College of Agriculture, Berkeley, Cal., for Circular No. 130, entitled "Cabbage Growing in California," by Stanley S. Rogers.

It should be borne in mind that the big planting of cabbage is intended to meet the eastern demand in midwinter and early spring, and that our time of planting is out of the natural season, and therefore often subjected to unseasonable weather, which causes it to be stunted and often shoot to seed. The wonder is that any of it matures.

Improper culture, too, will stunt the normal growth of cabbage and cause the heads to prematurely go to seed.

**Culture**—The secret of growing hardy plants is to thoroughly prepare the soil in the plant bed. Plow the soil to a depth of eight or ten inches, pulverize well. Sow in drills not too freely, about one-half inch deep, press the soil firmly over the seed; this is important. In about six weeks transplant in rows three feet apart, one foot in the row for Winnigstadt, eighteen inches for large-heading varieties. Keep the crop well watered and cultivated for when the growth is checked the seed head matures and bursts forth as soon as moisture is again applied. This accounts for much cabbage going to seed. Early varieties mature about three and one-half months after transplanting, late varieties in about five months.

Should there be a cold spell when the thermometer lingers below 25 degrees, just at the time the cabbage begins to head, you may expect twenty-five per cent of your crop to shoot to seed.

One large and constant grower says: "November transplanting escapes the hard winter season that causes so much loss by shooting to flower."

**For Cabbage Worms**—We do not hesitate to recommend Paris Green to be used up to two weeks before marketing the cabbage because the spray only reaches the outer leaves that are not eaten, and because within two weeks the elements neutralize the poison. Also when only one tablespoonful of Paris Green is mixed with four gallons of water and kept well agitated there could not possibly be poison enough on a head of cabbage to even make any one sick. Add 1 cupful of flour paste to make it adhere.

**For Aphids**—Spray with Black Leaf 40. Direction: One tablespoonful to two gallons of water. Add about one-eighth pound of soap. Add one teaspoonful Paris Green to destroy the worm also.

**Marketing**—The every day demand at the local market should be met with the most palatable varieties like the A & M Early Drumhead, Copenhagen Market and Glory of Enkhuizen.



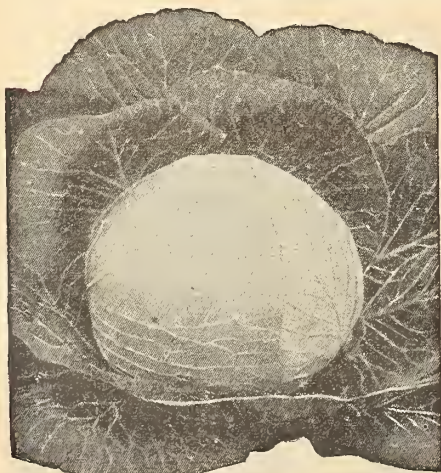
## Winnigstadt

No other vegetable listed in our catalog has retained its popularity so continuously and for such a long time as our strain of Winnigstadt Cabbage, introduced by us in 1896. It is now, and has been ever since that date, the most popular cabbage grown in Southern California. It is popular because it is early, solid, good flavor, sure header, and good shipper. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00 postpaid).

Winnigstadt Cabbage is worth \$1,000,000 annually.

**Early Jersey Wakefield** Very early, maturing in 90 days. Small head inclined to point like the Winnigstadt. Recommended for home garden where earliness is desired. (Pkt. 10c) (oz. 35c) (¼ lb. \$1.20) (lb. \$3.50 postpaid).

## Copenhagen Market



Copenhagen Market

(Pkt. 10c) (oz. 50c) (¼ lb. \$1.65) (½ lb. \$3.00) (lb. \$5.00)

**Glory of Enkhuizen** The grower when introducing this variety pronounced it the ideal for the home and for Liberty Cabbage, surpassing all others in excellence of quality and flavor. It is similar in shape and habit to the Danish Ballhead, just ideal for the local market. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.65) (lb. \$5.00 postpaid).

MR. J. H. BECKHAM says—"I transplanted Glory of Enkhuizen Cabbage, September 20 and began marketing December 10, just 80 days. At least 90% headed perfectly. None shot a seed. Heads run about 12 lbs."

Our European grower has given great praise to this variety. It is earlier, larger and better than the Winnigstadt for the local market. It is grown more extensively for the markets of Northern Europe than any other variety. It excels because of its extreme tenderness and delicious flavor, which is compared with cauliflower. We give it urgent recommendation to growers for the home market and for home gardens.

## A & M Scott's Cross

The introduction of this cabbage into the Southwest means millions of dollars to the growers. An ordinary average yield of Winnigstadt per acre is eight to ten tons. Scott's Cross will average twelve to fourteen tons of a better grade. This means about fifty dollars per acre more at no greater expense. Scott's Cross is one of the best to grow for shipping. It is a cross between the Winnigstadt and the Flat Dutch. It promises to outrank the Winnigstadt, but up to the present time there has been some variation as to its type and uneven maturing, but it is such an excellent cabbage because of its hardiness that we have contracted with our seed grower to make a perfect type by selection. We wish all cabbage growers to give it a trial this spring, that you may not hesitate to plant it next fall. (Pkt. 10c) (oz. 80c) (¼ lb. \$2.65) (lb. \$8.00) postpaid.

**Late Drumhead** A large variety used extensively for making Liberty Cabbage. (1 Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00 postpaid).

**All Seasons** The heads are extremely solid, round, flattened on top and ready to market nearly as early as Early Drumhead, while considerably larger in size. It is called "All Season," because it is as good for autumn or winter as for early summer. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.65) (lb. \$5.00) postpaid.

**Large Late Flat Dutch** A large sure header. A standard sort for late crop. Preferred for making liberty cabbage. (Pkt. 10c) (oz. 45c) (¼ lb. \$1.40) (lb. \$4.25) postpaid.

**American Drumhead Savoy** The best of all Savoy. Short stump, large size, solid head. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.65) (lb. \$5.00) postpaid.

**Improved Red** Heads of deep color and remarkably solid. Excellent for slaw. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.65) (lb. \$5.00) postpaid.

**Autumn King** This Giant Cabbage has astonished all who have seen it at the market. Heads weighing from forty to fifty pounds are not uncommon. It is tender and of excellent mild flavor, ideal for Liberty Cabbage, and it will yield more tons of good cabbage per acre than any other variety. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

**Hollander** Is one of the best of all the hard heading varieties. The heads are thick, round, of medium size and solid as a rock; of good flavor and heads well in our winter climate. It is a desirable sort for gardeners. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.65) (lb. \$5.00 postpaid).

**A & M Early Drumhead** Year by year this variety becomes more and more popular. It is very early, tender, crisp, and just the right size for the dealer. Truckers like it because every stalk produces a head. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

**Danish Ballhead** Since our introduction of this short-stemmed type of the Danish Ballhead, it has rapidly grown into popularity with both the grower and the shipper. Why? Because it is a sure header adaptable to all soils. Heads are solid and uniformly round. It is a good shipper and is not surpassed for table use. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.65) (lb. \$5.00) postpaid.

**Fotller's Brunswick** One of the best second early varieties for fall use. The plants have very short stems, large flat solid heads of fine quality. (Pkt. 10c) (oz. 45c) (¼ lb. \$1.65) (lb. \$4.50).



# A & M Cauliflower

2,076 Carloads of Cauliflower Was Shipped out of Southern California in 1920; All of it Was the California Pearl Variety.



## SNOWBALL

**Snowball** This variety is in a class by itself for earliness. The demand for seed begins in April for May planting, which is ready for the local market beginning October 1st.

There is good profit in the early variety, but care should be exercised to avoid blighting by excessively hot weather. At such times apply water abundantly, but cultivate judiciously to prevent any baking of the soil. (Pkt. 25c) (¼ oz. \$1.50) oz. \$4.50) (¼ lb. \$15.00) (lb. \$45.00) postpaid.

**Dry Weather Cauliflower** Dry Weather Cauliflower merits the confidence of all growers as an all-year-round variety. We give it special recommendation for the first early and late planting. It requires rich soil and good cultivation, but will withstand more drouth than any other variety. (Pkt. 25c) (¼ oz. \$1.50) (oz. \$4.50) (¼ lb. \$15.00) (lb. \$45.00).

**A & M Early Pearl Cauliflower** This seed should be sown from May 1st to June 25th. The plants are ready to be set out in from seven to ten weeks, or as soon as they have reached the proper size and stage, and will be ready to start cutting by the last of October. This variety is not only large, white and very meaty, but is self-blanching, as it is well covered and not necessary to tie up. Yields heavy and is an extra good shipper. (Pkt. 10c) (¼ oz. 65c) (oz. \$2.00) (¼ lb. \$6.65) (lb. \$20.00) postpaid.

## A & M Half Early Pearl Cauliflower

The best Cauliflower known today in all Southern California, all things taken into consideration. Seed should be sown from May 25 to July 15th. Plants should be ready to set out in from seven to ten weeks or as soon as they have reached the proper size and stage. Should be ready to cut by December 15th. We have a report on 29 acres that cut 34 cars of extra fine stuff which brought from 10 to 20 cents per dozen above the market price.

Shippers are very anxious to have their growers plant this variety, as it is the best carrying Cauliflower on the market. Very large, close to the ground, extra heavy foliage, and the best covered of any flower now known, which fact makes it more resistant to freezing weather. Amateurs have made good success growing this variety. We especially recommend this, as we have watched the growing of this seed, and no labor or expense has been spared by the grower to produce the best Cauliflower in the world. (Pkt. 10c) (¼ oz. 65c) (oz. \$2.00) (¼ lb. \$6.65) (lb. \$20.00) postpaid.

If you would have success, do not fail to read pages 1 to 10. The advice and instructions to be found there, if heeded, will bring you the joys of success.

## A & M Late Pearl Cauliflower

**Late Pearl Cauliflower:** Attains a height of three to four feet. Culture same as for Early Pearl. This is the variety that has made California Cauliflower famous throughout the United States and is bringing annually more than \$1,000,000 to the growers. (Pkt. 10c) (¼ oz. 65c) (oz. \$2.00) (¼ lb. \$6.65) (lb. \$20.00) postpaid.

**California Pearl Cauliflower** This variety is a favorite from California to New York, because of its excellent shipping qualities. It originated here and has made Southern California famous for her excellent cauliflower. The California Pearl is thoroughly adapted to our mild winter climate and is particularly suited for shipping because of the flower being completely enveloped within spiral curled leaves, which protect the flower from injurious exposure to rain, sunshine or frost, but particularly from injury in packing and in transit. It retains its fresh appearance longer than any other variety. It is decidedly the shipper's favorite. It is the gardener's, the dealer's and the consumer's favorite. To be packed for shipping it is only necessary to cut the stem at the base of the head, and the leaves about two inches above the head. This leaves foliage enough to cover the crown without wrapping in paper. These heads are packed two layers in a crate (16 inches deep), with the base at the top and bottom, the crowns facing the center, usually 24 heads per crate.

The small grower may plant at any time from May until February, but for profit the shipper should carefully pursue instructions given with each variety.

When you consider that the amount of cauliflower shipped from California each year runs into thousands of carloads, valued at \$1,000,000, and practically all of it is the California Pearl, the value of this type is of so great importance that we are proud to have been the introducers of it.

Will Daly, a well-known rancher in the Mound District, Ventura County, planted thirty acres of cauliflower in 1920 between the rows of young lemon trees.

The price of plants for an acre of cauliflower was \$20, making a total of \$600 for the thirty acres. The labor of setting them out and subsequent cultivation, irrigation and harvesting cost \$50 an acre, or \$1500 for thirty acres. Irrigation for the thirty acres cost \$600, while the ultimate cost of shipping for the crop was \$600.

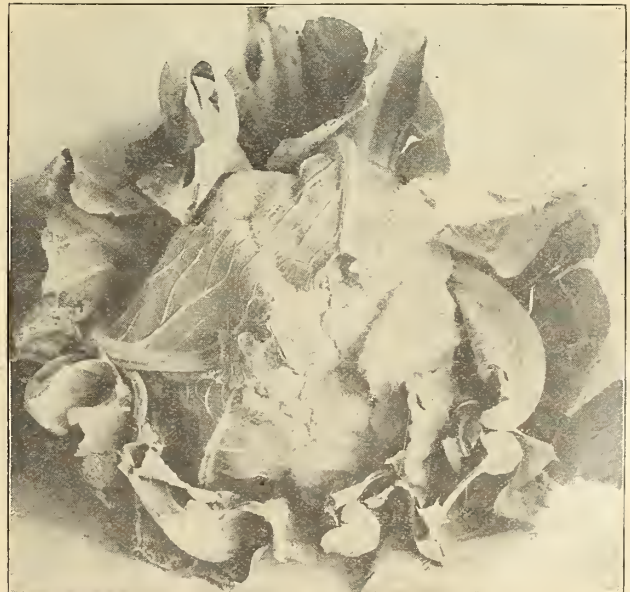
Each acre averaged 400 crates, containing an average of one dozen heads to the crate, or 4800 heads. The average selling price per crate was 65 cents, thus bringing \$260 an acre. The cost of producing the cauliflower for the thirty acres was \$3300, the selling price \$7800, thus leaving a profit of \$4500, which is a much higher figure than that attained by the average profit of lima beans.

**Culture—(For Shippers)—**Choose soil from a rich loam to a heavy adobe. The field should be level to afford a uniform moisture. Avoid planting Cauliflower or Cabbage on a hillside.

Early varieties should be planted in the seed bed from May 1st to July 1st. Late varieties from June 1st to August 1st. Early planting of seed is advised in order that the plant may have fully developed before the proper season for maturing. Growers are constantly endeavoring to mature a normal crop out of season. Proper culture will accomplish much toward producing a good crop but too much is expected out of the normal season.

Plants should be ready to transplant from seven to ten weeks. Early varieties should be ready for market in November; late varieties in December and January, and later according to the time of planting the seed.

Do not attempt to grow Cauliflower or Cabbage unless you have water in abundance.



Trimmed to Ship

California Pearl

Worth \$1,000,000 annually



## A & M Table Carrots

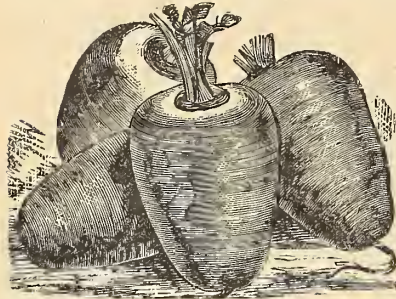
**Culture**—Sow one ounce of seed to 100 feet of row, four pounds per acre.

Carrots are very profitable because of the large quantity that a small patch can produce, and there is no waste, as any surplus may be fed to rabbits or other animals.

Carrots may be planted all the year round. Sow the seed from one-half to one inch deep in rich, moist, loamy soil, well prepared. Sow in rows eight inches apart, and as thin as the drill can be set to sow, or, if sown by hand, aim to have two seed to the inch, or sow in ridges same as lettuce. Plant the Oxheart variety. It is the best for the table, and the most attractive for the market. The carrot has few insect enemies. Nematode is the worst. Irrigate same as for beets. Carrots are ready for use in eight weeks and remain palatable for six months or longer.

**Market**—The local demand for Carrots is all the year round, but the chief demand is from the shipper, who wants them from December 1st until May. For this trade the seed should be planted in August and September. The shipper wants the Chantenay, Oxheart and Danver Half Long.

There are many rabbit hutches within the city where carrots are used throughout the year. If you live a convenient distance from one of these places you may be able to secure a contract from the owner to furnish carrots.



### Oxheart

Beautiful shape and color. The roots generally attain four or five inches in length, and about three inches in diameter. Quality first rate, very tender, like the Early Gem, is the market gardener's favorite. (Pkt. 10c) (oz. 20c) (¼ lb. 45c) (lb. \$1.25) postpaid.

**Improved Long Orange** A deep orange colored variety adapted for farm or garden culture. (Pkt. 10c) (oz. 20c) (¼ lb. 45c) (lb. \$1.25) postpaid.

**Chantenay** Flesh is a deep golden orange color, always smooth and fine in texture, very tender. (Pkt. 10c) (oz. 20c) (¼ lb. 45c) (lb. \$1.25) postpaid.

**Danver's Half Long** The roots are smooth and of a rich, dark orange color. One of the best sorts for a main crop because it remains edible in the fields longer than other varieties. (Pkt. 10c) (oz. 20c) (¼ lb. 45c) (lb. \$1.25) postpaid.

**Early French Forcing** A small sort but desirable on account of its extra early habit. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

**A & M Early Gem** Somewhat resembles the Guerande or Oxheart, but is more uniform in shape, of finer texture and almost entirely free from the core usually found in other varieties. Flesh deep yellow, very tender and delicious in flavor. The roots generally attain from four to five inches in length and about three inches in diameter, although they have been grown to nearly double these dimensions. For bunching, the handsome appearance is a marked advantage over all other varieties. It is a favorite with many market gardeners. (Pkt. 10c) (oz. 15c) (¼ lb. 50c) (lb. \$1.50) postpaid.

## A & M STOCK CARROTS

Carrots are healthy food for stock of all kinds, and should be more generally grown.

**Culture**—Drill in rows 12 inches apart, and thin to three inches apart in the row. It requires five pounds of seed to plant an acre.

**Half Long White Belgian** Is raised exclusively for stock. Grows to a very large size; is easily gathered. Makes splendid food for cattle, horses and hogs; known to yield forty tons per acre. Will keep four or five months after pulling. (Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.10) postpaid.

**Large Yellow Belgian** Is similar to the above, but said to be richer, but does not keep so well. (Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.10) postpaid.

**Mastedon** Desirable because it stands well above ground, thus being easily harvested. Although six inches in diameter, there is no hard core. We give the Mastedon special recommendation to dairymen. (Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.10) postpaid.

## A & M Celery

**Culture**—Sow one-half ounce of seed to 100 feet of drill; ¼ lb. per acre. Sow the seed from Jan. 1st to May 1st, in drills six inches apart, not too thick in the row to secure stalky plants. In June when the plants are strong, transplant to furrows three feet apart and six inches deep. Set the plants six inches apart in the furrows; as the plant grows fill the earth toward the plant to secure proper bleaching. Never allow dirt to rest on the heart of the plant. Never work in celery when it is wet with rain or dew. Spray frequently with Bordeaux.

Write College of Agriculture, Berkeley, Cal., for Bulletin No. 208, entitled "The Late Blight of Celery."

**Celery Rot**—Do not allow water to stand during the heat of the day after irrigating. It will cause Celery Rot in the early crop.

**Hollow Stem**—When the growth is rank and the stalks so close that free ventilation of air is retarded during the hot weather, the stems become soft and hollow; therefore, we recommend the single-row planting.

**Market**—The local consumption and outlying distribution disposes of a very large acreage, but owing to its erratic nature it requires a peculiar soil and professional culture. Therefore, there are few localities where it can be forced to earliness. May, June and July celery brings a high price to the grower. Then there comes an oversupply until the shipper disposes of it. When a surplus exists cold storage is resorted to, with doubtful profit, on account of the perishable nature, the shrinkage and the expense.

**Golden Self Blanching** (French Grown Seed)—To growers who would prefer the more dwarf type, we recommend the French grown seed, which was the standard for many years. (Pkt. 10c) (oz. \$1.50) (¼ lb. \$5.00) (lb. \$15.00) postpaid.

**Golden Self-Blanching** (California grown seed.) Another year has demonstrated that our strain of California grown seed is equal to the imported in producing good celery. Every grower in Florida who tried our California grown seed has ordered ever since in larger quantities. Our seed is now accepted by all who have used it as fully up to the imported. We offer it to you with our full recommendation. (Pkt. 10c) (oz. 80c) (¼ lb. \$2.65) (lb. \$8.00) postpaid.

California Grown Golden Self-Blanching Celery Seed is now the accepted standard throughout the United States, and is giving such complete satisfaction that American growers are accepting it with absolute confidence, asking only to know the reliability of the seed. That ours is reliable is proven by hundreds of satisfied growers.

**White Plume** Best for home garden. We have now the grandest strain of White Plume Celery ever offered to the market gardener. One stalk frequently weighs above five pounds. It is solid, and crisp, with a decidedly salty flavor derived from the alkaline soil in which it was grown. On the peat lands it attains its highest perfection. (Pkt. 10c) (oz. 35c) (¼ lb. \$1.20) (lb. \$3.50) postpaid.

**Smooth Prague, Celeriac** root used extensively for flavoring soups, pickles, etc.; also relished as a salad. (Pkt. 10c) (oz. 35c) (¼ lb. \$1.20) (lb. \$3.50) postpaid.

A letter from Mr. Harry Bailey, who makes a specialty of growing Celeriac, says: "Save me ½ lb. of your Celeriac if it is the same I got last fall. It is the best I ever had."

"Mrs. Peter Gardner of this city thinks you are the only people from whom we can get real good Celery seed."

(Signed) "W. G. TILGHMAN, Palatka, Fla."



GOLDEN SELF-BLANCHING  
\$300,000.00 Crop

**Easy Blanching Celery** An early green top variety that has become very popular in eastern celery growing sections because it requires only a few days to produce a marketable blanched celery. The advantage of this is apparent to the professional celery grower because it obviates that large percentage of loss always incurred during the process of blanching. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00).

**Celery Seed for Flavoring** Per lb. 50c postpaid.

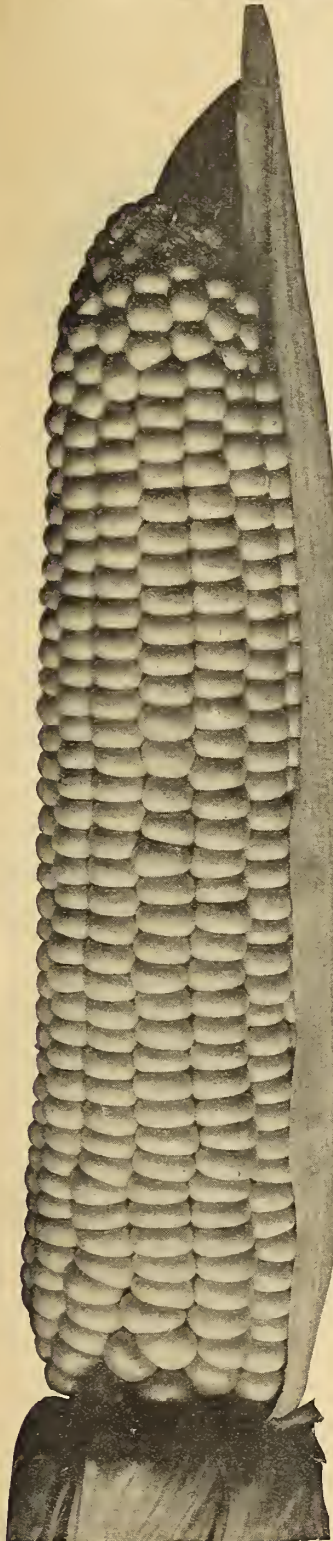
## TAPE FOR TYING CELERY

Spools containing 1000 yards in Red, White or Blue, \$6.75 per spool.



# A & M Sweet Corn

Note Prices Given Include Postage or Expressage Prepaid.



**Market.**—There is a uniform local demand for sweet corn throughout the season, from the earliest day it is offered until the last field is harvested. Therefore, prepare to have some coming all through the season. Oregon Evergreen has not been surpassed since we introduced it. It is yet the best for the market gardener and the most productive.

**Culture**—Plant from February 15th to September 1st in hills 18 inches apart, in rows three feet apart. Allow two stalks to the hill, break off all side shoots; cultivate after each irrigation until the corn shades the ground; irrigate every two weeks until in the milk, then once or twice a week, and this will produce a solid tight husk, which will prevent the worms from doing much damage.

We are ever on the lookout for something better than that which we have. We are constantly trying out new varieties that show merit, but we studiously refrain from offering to our customers anything new unless it is better than that which we have. It is this policy that has kept the Oregon Evergreen so prominently before you for many years as the money-maker for the market gardener.

## A & M Oregon Evergreen

Oregon Evergreen corn now has the endorsement of every gardener that grows for the Los Angeles market. We are safe to say that any gardener growing this will show to his customers its superiority over all other sweet corn. It is many years since we first offered this new and distinct variety. The demand has grown each year until it is now practically the only variety offered on the Los Angeles market. The advantages of this corn over all others are its earliness, its large size, rarely less than eight inches long. The grains are full to the tip.

Oregon Evergreen.

The husk is very thick and folds so tightly over the grains that the worm does very little damage, compared with other varieties. It is desired by the peddler and groceryman because of its thick husk, and it can be held over two days before it appears old or wilted. It is very productive, often bearing five marketable ears. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**A & M Early Adams** This is a blend between the Oregon Evergreen and the Eastern Extra Early Adams. The superiority of this strain over the former eastern-grown Adams is shown in its earliness, large size and sweetness. It is nearly as good as the Oregon Evergreen, and it is earlier and harder. It is one of the many good things that originated here. Although it may be frosted when six inches high it will come again. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**A & M Large Adams** This is the best market variety to plant in August and September for late crop. It will mature in five days. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**Golden Bantam** Probably the very earliest variety grown. Very sweet, none better for the home garden for first early. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**Country Gentleman** A delicious sweet corn. The ears are somewhat smaller and less showy than the coarser varieties, but for private family use, where quality is preferred to size, it is excelled only by the Golden Bantam. The cob is very small, giving great depth to the kernels. The great merit of "Country Gentleman" is its fine quality. It matures in ten weeks. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**Stowell's Evergreen** If planted at the same time with earlier varieties and at intervals of two weeks until July 1st, it will keep the table supplied until November. It is hardy and productive, very tender and sugary, remaining a long time in a fresh condition suitable for cooking. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**Black Mexican** One of the best sweet corns for this section. Deliciously sweet and tender and very productive. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**Early Oregon Evergreen** For many years we have tried to get a sweet corn that would be as early as the Adams and as good as the Oregon Evergreen. We now have it in this new strain. It is just as prolific, bearing two to five large ears near the ground. The stalk grows only six to seven feet tall; the ears have long streamers just like the Oregon Evergreen. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) postpaid.

## DON'T KNOCK—Boost!

"We do not wish to knock any variety, but we can boost the Oregon Evergreen Sweet Corn. We tried several varieties in our garden, but the Oregon Evergreen produced three times more corn than any other variety. It was picked four times, the last being very short but full grained. It beats them all. (Signed) "JOHN NASS, Los Angeles."

## Pop Corn



Doll Pop Corn

**Rice** Sharp pointed grain is preferred by vendors, but is not profitable to grow here at the usual price because of the devastations of the worm. (Per pkt. 10c) (lb. 30c) (10 lbs. \$2.50) prepaid.

**Pearl** This is the variety so extensively grown locally. It yields enormously and at the present price is very profitable. (Pkt. 10c) (lb. 30c) (10 lbs. \$2.50) prepaid.

**Yellow** Large smooth grains of Golden Yellow Color. It pops large, has excellent flavor and is the most profitable to grow. (Pkt. 10c) (lb. 30c) (10 lbs. \$2.50) prepaid.

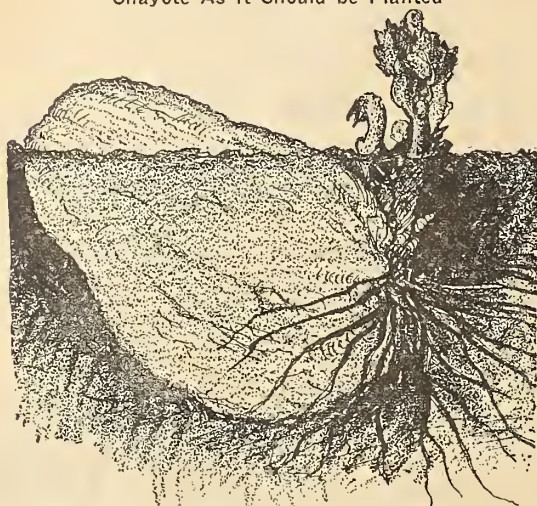
**Doll Pop Corn** The best of all for the home garden. The commercial pop corn roaster prefers it, saying it is the best of all, but he cannot get enough of it because the comparative yield is small, therefore, not profitable to grow in large acreage. But for the home it very much excels all other varieties. (Pkt. 10c) (¼ lb. 20c) (lb. 50c) postpaid.

**FARM and HOME DRYING of FRUITS and VEGETABLES** The Bureau of Plant Industry, United States Department of Agriculture, has issued Farmers' Bulletin 984, "Farm and Home Drying of Fruits and Vegetables," by Joseph S. Caldwell. The bulletin may be had without cost by writing Division of Publications, United States Department of Agriculture, Washington, D. C. Also, consult your local Farm Bureau.



# A & M Chayote

Chayote As It Should be Planted



The Chayote is no longer a novelty. It has now become an article of commerce. It may be found on sale at every grocery store throughout the season, which lasts from October until March.

The vine is a rampant grower. The first year from seed it will grow twenty to thirty feet. Destroyed to the ground by frost, it soon sends out new growth, and during the second season will extend vines forty or fifty feet in every direction. During September it starts blooming, having a small, white, insignificant flower. Within four weeks the fruit is large enough for the table. One vine in two years if properly trellised will produce more than one thousand fruit.

**Cultural Directions** One fruit envelopes one seed, which sprouts from the large end. Plant where you intend it shall grow. Cover only the large end, leaving the small end exposed. (See picture) Or let the fruit lie around until it has well sprouted, and then plant the seed, leaving the sprout well above ground. Water freely and do not be alarmed if frost should destroy it. A new shoot will soon appear. Give it abundance of water throughout the hot summer season.

Because of many complaints of failure to get them started we offer them already rooted. Rooted vines 50c each, postpaid. One Chayote not rooted, 25c.



Cottage Covered with Chayote Vine

## RECIPES

Parboil, chop and casserole with tomato, onion and green peppers.

Fry as egg plant. Prepare as summer squash. Use small ones, without peeling, boil until tender, cut in half, put a small lump of butter, a little sugar, salt and pepper on each one. Put in oven a few minutes.

For larger ones. Peel and cut into cubes and boil; when done, drain, add butter and seasoning and fry in pan. Let simmer until butter burns. Just before serving put tablespoonful of vinegar on them.

Parboil young ones and serve as salad with mayonnaise dressing or with boiled dinner as turnips.

**Chayote Pudding**—Boil the Chayote, mash and rub through a sieve. To one and one-half cupfuls add one-third cupful sugar, one well beaten egg, two powdered soda crackers, one teaspoonful ground ginger, one teaspoonful of lemon extract, and one tablespoonful of butter. Mix well, turn into a greased pan and bake. This is delicious. Try it.

## NO EXCUSE FOR INEFFICIENCY

UNIVERSITY OF CALIFORNIA

COLLEGE OF AGRICULTURE

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On account of the increased cost of publishing, only bulletins and circulars of the most general interest will be mailed hereafter except upon request. You will be doing a great service if you show this list to your neighbor.

The College of Agriculture is conducting correspondence courses in agriculture. There is no fee. A circular describing the twenty-seven courses and an enrollment card will be sent upon request.

If you wish advice by letter or personal visitation, get in touch with your County Farm Advisor, or write to the Division of Agricultural Extension, College of Agriculture, University of California, Berkeley.

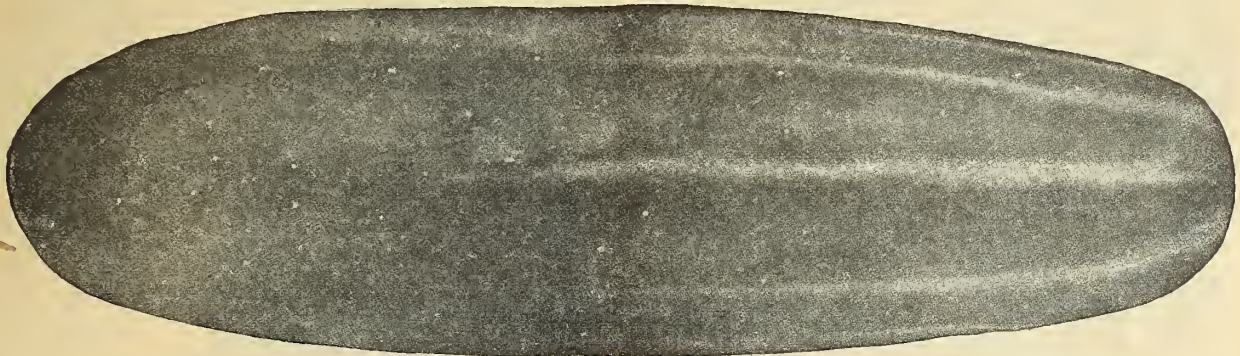


# A & M Cucumbers

Culture for hot-bed.—Make the frame  $8\frac{1}{2}$  feet wide and as long as is desired, using 12 in. boards. Select a place with good loamy soil on a sunny slope. Mix the soil almost half and half with horse manure. About February 1st sow liberally with seed, in hills three feet apart each way. Stretch wire over the frame across and lengthwise. Sew muslin in widths and lengths

to cover frame. Arrange to roll the muslin on a stick as a curtain. Cover each evening, and open each day.

Field Culture—Plant from March to October in hills 4 to 6 feet each way, 8 to 10 seeds to a hill. Cover an inch deep. When danger of insects is past, thin out the plants, leaving 5 or 6 of the strongest in each hill. It is ready for the table in six weeks from planting seed. One ounce of seed will plant 50 hills; two pounds to the acre.



Klondike Cucumber

**Klondike** This cucumber has steadily grown into favor since we first offered it six years ago. It is the one variety that made carload shipments possible because it is firm, dark green color, and stays green until consumed; turns neither white nor yellow with age, but stays green. It is a desirable size, just 7 to 8 inches long, symmetrical in shape, and especially crisp and palatable. It is an excellent variety for pickling when young, as well as desirable for the market. (Pkt. 10c) (oz. 20c) ( $\frac{1}{4}$  lb. 50c) (lb. \$1.50) postpaid.

**Lemon Cucumber** At last after years of advertising and effort to educate the home-gardener to grow the Lemon Cucumber instead of the common long green type, we can now say that at least half the people are awake to the superiority of this delicious salad, and the other half will soon regret not having tried it earlier. Every one who has tried it is unanimous in its praise, and would not think of omitting it from the spring garden. It is the color of a lemon when ready to use, and similar in shape, being less pointed at the ends.

There is nothing but praise for the Lemon Cucumber. It may now be found at almost any vegetable stand, and no home garden should be without it. (Pkt. 10c) (oz. 20c) ( $\frac{1}{4}$  lb. 65c) (lb. \$2.00) postpaid.

**Davis Perfect** This is the ideal cucumber. Long, slender, dark green, tender and crisp. It is the best all around cucumber yet offered for the family garden, the market garden and the hot house. Do not hesitate to plant this variety, whether you plant a dozen hills or a larger acreage. (Pkt. 10c) (oz. 20c) ( $\frac{1}{4}$  lb. 65c) (lb. \$2.00) postpaid.

**White Spine** A popular, early variety for slicing. Very prolific, crisp and excellent for pickling when young. (Pkt. 10c) (oz. 20c) ( $\frac{1}{4}$  lb. 65c) (lb. \$2.00)

**Improved Long Green** Dark green, firm and crisp; ten to twelve inches long, a favorite with home and market gardeners. Hotel trade like a long cucumber for slicing; this is ideal for such purpose. It is very prolific and none better for pickling. (Pkt. 10c) (oz. 20c) ( $\frac{1}{4}$  lb. 65c) (lb. \$2.00) postpaid.

**Japanese Climbing Cucumber** This variety should be grown more extensively; it is equal to others in quality and can be grown more economically in a small garden by planting near a fence or trellis of any kind, and climbs by tendrils as a grape vine. Whether space is a factor or not, we recommend it. (Pkt. 10c) (oz. 20c) ( $\frac{1}{4}$  lb. 65c) (lb. \$2.00) postpaid.

**Our Everbearing Cucumber** This variety is entirely distinct from all others on account of its close, bushy growth and everbearing character as shown in our illustration. The first cucumbers are ready very early and the vines continue to flower and produce fruit continually until late in the season, whether the ripe cucumbers are picked off or not, differing in this respect from all other varieties of cucumbers in cultivation. A single vine will show at the same time cucumbers in every stage of growth, the smaller ones being perfect in shape, of a fine green color, just the right size for pickling. As they grow larger they are entirely satisfactory as a slicing cucumber. We recommend this to be planted in home gardens at all times, but especially in September. (Pkt. 10c) (oz. 20c) ( $\frac{1}{4}$  lb. 50c) (lb. \$1.50) postpaid.

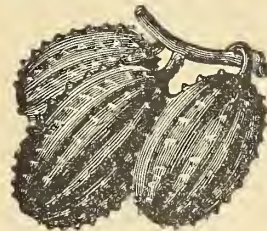
**Chicago Pickling** This is the variety that is being shipped out of Orange County to the Los Angeles pickling factories. Thirty-five carloads were shipped in, possibly as many more came by auto truck. Our seed has given these growers satisfactory results for years.

This variety is chosen because of its delicious quality and its shape, being one inch thick and three inches long when at pickling size. It is enormously prolific, bearing in clusters. We can recommend it for the home garden, but not for the market gardener, because it turns yellow soon after being taken from the vine. (Pkt. 10c) (oz. 20c) ( $\frac{1}{4}$  lb. 50c) (lb. \$1.50) postpaid.

## A Word About Cucumbers

Planted from September 1st to 15th, in a sheltered place, will produce delicious cucumbers all through December and late into January. This has been done frequently, but so much depends upon the changeable climatic conditions each season that there is always a risk of failure, but it is worth a trial because the expense is small compared with the profit if you succeed. Six hundred dollars from one acre of cucumbers during the month of December is easily possible.

To prolong the vitality of your vines, pick all of marketable size every other day, and do not tread upon the vines when picking. To grow prize cucumbers, mix a handful of fertilizer with the soil about the hill when planting, and more as the vine grows.

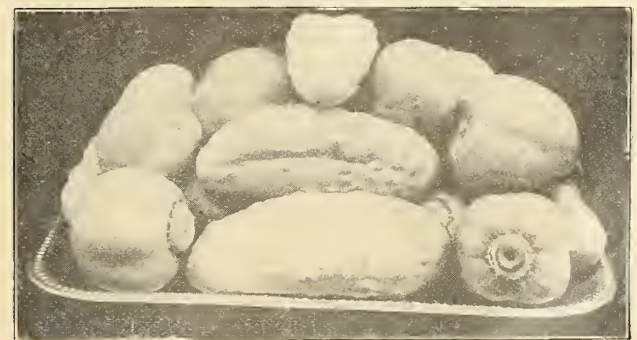


SMALL GHERKIN.

**Gherkin** This cucumber is the most delicious of all the cucumber family when properly pickled. It should be more extensively grown. Planted where it may climb on a trellis, one vine will cover a section of fence eight feet high and twelve feet wide, producing possibly a thousand or more of the delicious and oddly shaped gherkins. It should be planted to shade a window or back porch. (Pkt. 10c) (oz. 30c) ( $\frac{1}{4}$  lb. \$1.00) (lb. \$3.00) postpaid.

**White Cucumber** A new and excellent Cucumber. Several years ago some seed of this Cucumber was sent us by someone whose name became lost in the files.

This Cucumber has the color and flavor of the now well known Lemon Cucumber and the shape of the Arlington White Spine. It is enormously prolific and of such excellent flavor that we readily predict when the home gardeners have once tried it they will no longer care for the green cucumber. We are sure that should someone make a contract to furnish this white cucumber to the fancy restaurant trade, a good profit could be realized, and a big business established. Every home garden order should include one packet of White Cucumber. (Pkt. 10c) (oz. 25c) ( $\frac{1}{4}$  lb. 75c) postpaid.



The round ones are the Lemon Cucumber. The long ones are the White Cucumber. The flavor is similar and far more delicious and tender than the green cucumber. They are also more prolific than the green.



## A & M CHICORY



WITLOOF CHICORY.

of the roots are eight inches below the top of the trench. Then fill with sand, water thoroughly and cover with manure. In two to four weeks tender heads will form and be ready for use as a salad with French dressing.

This is a most delicious salad, and many Eastern growers are making a specialty of it, selling to hotels at fancy prices. We suggest it to our many mushroom growers, believing it will go nicely hand-in-hand with the growing and marketing of mushrooms. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

## A & M COLLARDS

The Collard is an old-time favorite, adapted to all parts of the South, and as a producer of "greens" for boiling in winter and spring it has no equal. It will pay you to have a collard patch just to feed the chickens.

**Southern Georgia** This variety is the old-time favorite. Stands all sorts of adverse conditions without injury. Is very hardy. In many places where the soil is too poor to grow cabbage, the collard grows easily, and makes a good substitute for cabbage. (Pkt. 10c) (oz. 20c) (¼ lb. 60c) (lb. \$2.00) postpaid.

## A & M CRESS

**Pepper Grass** Sow curled or pepper grass thickly, in shallow drills, every two or three weeks. It should be cut often, and will continue to grow. It is used not only for salad, but on the breakfast table and for garnishing. Used with lettuce its pungency adds an agreeable flavor. (Pkt. 10c) (oz. 15c) (¼ lb. 50c) (lb. \$1.50) postpaid.

**True Water Cress** Should be sown in damp soil or if a stream of water can be utilized, it would be much better. It will also thrive well in damp cold frame. Rightly managed, its culture is very profitable. (Pkt. 10c) (oz. 60c) (¼ lb. \$2.00) postpaid.

## A & M CORN SALAD

Culture—Sow any time from Oct. 1st until February. Plant and cultivate the same as lettuce. It is hardy in this climate. It is used for garnishing in the same manner as parsley or cress. (Pkt. 10c) (oz. 30c) (¼ lb. \$1.00) postpaid.

**Chervil** Curled Chervil. Seed should be sown only during the cooler months in rows 15 to 18 inches apart and thin to 4 to 6 inches apart in the rows in good garden soil. Chervil is used for garnishing and flavoring. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) postpaid.

## A & M HERBS

Herbs in general, delight in a rich, mellow soil. Sow the seed any time throughout the year, in shallow drills one foot apart; cover lightly with fine soil, and when up a few inches, thin out to proper distances apart, or transplant into prepared beds. Care should be taken to harvest properly; do this on a dry day, just before they come into full blossom. Dry quickly in the shade, pack closely in bottles or dry boxes to exclude the air; this will insure their being preserved in good condition for future use. Varieties in the list marked \* are perennials.

**Plant Dill** Every year there is such a demand for green dill that the supply is short of the demand.

Plant in any quantity, from ten feet square to one acre, but not more. Make several plantings to have it drag along, and sell what you can of the green dill and let the balance mature for seed. There is a good demand for the seed at about 20c per lb.

The roots, dug in the fall, dried, cut in thin slices, and ground, are used largely as a substitute for coffee. Seed should be sown quite thinly in shallow drills early in the spring. When well started, thin out to stand two or three inches apart in the row and give good cultivation all summer. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

## Witloof Chicory

Sow the seed in deeply prepared ground during June, July and August. Thin out to four inches apart in rows twelve inches apart. In December make trenches ten inches deep and twelve or fifteen inches wide, and loosen the soil for ten or twelve inches deeper. Set the roots three inches apart in rows six inches apart, within the trench, so the tops of the roots are eight inches below the top of the trench. Then fill with sand, water thoroughly and cover with manure. In two to four weeks tender heads will form and be ready for use as a salad with French dressing.

## A & M EGG PLANT

**Market:**—The sale of Egg Plant does not compare favorably with other produce, and the consumption is not large. It is owing to the productiveness of the Egg Plant which makes it at all profitable during the season of abundance. A small acreage yields enormously, but it is the very early Egg Plant which makes a profit, such as \$1000.00 per acre. May and June are considered early.



New York Improved Spineless Egg Plant

ture marketable fruit the following May. Egg Plants require four to six months to mature. One-fourth pound of seed is sufficient to plant an acre.

**New York Improved** This variety has superseded all others, both for market and home use. The large size and high quality of its fruit and its extreme productiveness make it the most profitable for the market gardener. It is spineless, which is a great advantage in shipping. (Pkt. 10c) (oz. 75c) (¼ lb. \$2.50) (lb. \$7.50) postpaid.

**Black Beauty** Is preferred by growers for the early market because it matures marketable size fruit earlier than any other variety, and because the fruit is dark colored, when quite young and uniformly over the entire surface. It is entirely free from spines. It is popular because it is a moneymaker. (Pkt. 10c) (oz. 75c) (¼ lb. \$2.50) (lb. \$7.50) postpaid.

**The Tree Egg Plant** This variety is of medium size and extremely good shape, being particularly adapted to slicing, as there is no waste of material. It resists drouth and bad weather to a wonderful degree, partly on account of its strong, upright growth. It bears its fruit sometimes one or two feet above the ground, thus escaping liability to rot. It is very satisfactory for the home garden. (Pkt. 10c) (oz. 75c) (¼ lb. \$2.50) (½ lb. \$4.00) (lb. \$7.50) postpaid.

## Read

You will need Sprays and Sprayers to destroy insects and fungi. See pages devoted to Insecticides and Sprayers, also Fertilizers.

## Leading Varieties

	Pkt.		Pkt.
Anise .....	10c	*Peppermint .....	10c
Balm .....	10c	*Rosemary .....	10c
Borage .....	10c	*Sage .....	10c
Burnet .....	10c	Saffron .....	10c
*Caraway, lb. 50c.....	10c	Sorrell .....	10c
*Catnip or Catmint.....	10c	Summer Savory .....	10c
Cherville .....	10c	Sweet Majoram .....	10c
Coriander, lb. 50c.....	10c	Sweet Basil .....	10c
Dill .....	10c	*Thyme .....	10c
*Fennell, Sweet .....	10c	*Winter Savory .....	10c
*Lavender, Sweet .....	10c	*Wormwood .....	10c

Devote a small plot in your garden to the growing of herbs. They add to the taste of things what daintiness adds to the looks of things, and many of them may be enjoyed all the year 'round.

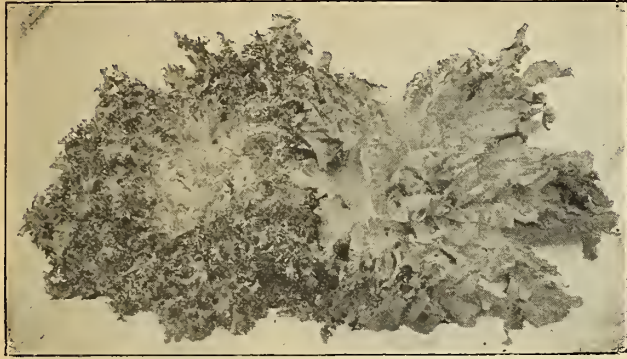
There is an increasing demand for Basil, Dill and Thyme for use in canning and pickling. It may prove profitable to contract to grow these herbs for that purpose.

## DANDELION

**CAUTION:**—We have discontinued the sale of the Dandelion as an herb because it is an obnoxious weed and should be destroyed wherever it appears. If it is neglected it will soon spread over your lawn, crowding out all the grass.



## A & M ENDIVE



Golden Heart

Batavian

**Culture**—Same as for lettuce. Seed may be sown any time during the year. When plants are well started, thin out to ten inches apart or they may be transplanted. When plants have reached a good size, gather the leaves closely together and tie loosely in an upright bunch. This blanches the inner leaves in about ten days and adds to the crispness as a salad, as it renders the flavor mild and delicate. One ounce will sow 400 feet of row.

This plant furnishes an attractive and appetizing salad for the fall and winter months; by repeated sowings a supply may be had nearly all the year 'round.

**Green Curled Golden Heart** Leaves are finely cut or lacinated, giving the plants a rich, mossy appearance, which is greatly enhanced when the centers are nicely blanched.

This is the variety generally preferred because it blanches to a beautiful golden yellow. (Pkt. 10c) (oz. 20c) (¼ lb. 65c) (lb. \$2.00) postpaid.

**White Curled** This beautiful variety does not need blanching to prepare it for use, the mid-ribs being naturally of a pale golden yellow, the finely cut and curled leaves are almost white. (Pkt. 10c) (oz. 20c) (¼ lb. 65c) (lb. \$2.00) postpaid.

**Batavian or Escarol** Forms large heads of broad, thick leaves, which can be blanched for a salad or it will make excellent cooked greens, as well as being useful to flavor soups, stews, etc. (Pkt. 10c) (oz. 20c) (¼ lb. 65c) (lb. \$2.00) postpaid.

## GOURD



**Culture**—Gourds are tender annuals, of trailing or climbing habit. The seed should not be planted until the ground is warm. Plant in hills and cultivate as cucumbers. Leave only two plants in a hill, and allow the vines to ramble or train over a trellis for shading windows.

**Dish Rag Gourd** The peculiar fibre within the gourd gives it its name. The fruit grows about one foot long. The interior fibre is serviceable for a variety of household purposes, being used as a dish cloth, or sponge. The fibre is tough, elastic and durable. (Pkt. 10c)

**Mock Orange** A good old sort, the gourd often finding its way into the family sewing basket. A beautiful and rapid climber, quickly covering trellises. (Pkt. 10c)

**Hercules Club** This often grows to a length of four feet. This is not the same as the New Guinea Butter Bean which it resembles. (Pkt. 10c)

**Dipper**.—Bowl with long handle. (Pkt. 10c).

**Bottle**.—Bowl with short handle. (Pkt. 10c).

**Pipe**.—Often made into pipe for smoking tobacco. (Pkt. 10c).

**Nest Egg**—(Pkt. 10c).

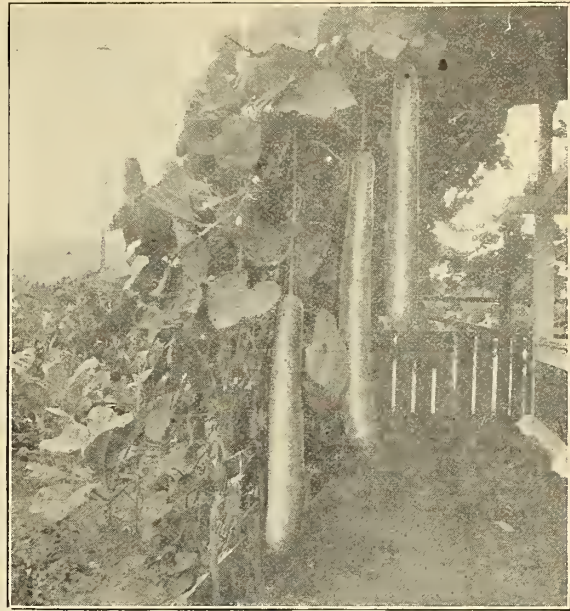
**Ornamental**.—Small odd shapes and colors. (Pkt. 10c).

**Mixed Gourds**—Pkt. 10c.

The Mexican knows the value of the Gourd for arbor purposes. It is a rampant grower in this climate. The Gourd is used for as many purposes as it has shapes. Bowl, dipper, pipe, trough, nest egg, bottle, dish-rag and ornamental.

Buy a packet of mixed Gourds.

## Edible Gourd



New Guinea Butter Bean as an Arbor

### AN EDIBLE GOURD

Plant Same as any Gourd

Lately advertised as New Guinea Bean. Has been a common table vegetable in China from time immemorial.

All of us have curiosities and many persons have reported to us how "Good is this New Guinea Bean." We tried it and sure enough we found it even better than the most delicious marrow. (Pkt. 10c) (oz. 30c) (¼ lb. 90c) postpaid.

**Recipe:** Take fresh from the vine a young gourd about sixteen inches long and three inches in diameter or smaller, while the fuzzy growth is yet on. Cut into cubes about ¾ inch, bring to a boil, pour off the water once or twice. Season well with pepper and salt, add butter. You will be surprised how good it is.

"Enclosed is picture of the Bean I promised to send you. The lower bean grew to be 48 inches in length and measured sixteen inches around. August 10th it was ten inches long; we continued to measure it each day and its fastest growth in 24 hours was three inches. It never grew less than one inch each day. We found when the bean is ten or twelve inches long the best time to bake or boil it and to my way of thinking is the best tasting vegetable of the squash family. The trellis you see is over my back porch and affords grand shade."

"MRS. CHARLES GLOVER."

We have been liberal with advice regarding selection and culture of vegetables, but read also our flower pages. Here, too we have endeavored to help you make selection, and to succeed with it.

Look over our list of bulbs; it requires little skill to grow them, and many will bloom successively for many years, needing only to be thinned and reset about every third year.

## A & M Kohl Rabbi



**Culture**—Seed may be sown every month in the year. Drill on ridges same as beets. Thin to three inches apart. An ounce of seed will produce 2000 plants.

### Early White Vienna

The earliest sort, very tender, excellent for table use. (Pkt. 10c) (oz. 30c) (¼ lb. \$1.00) (lb. \$3.00) postpaid.

### Early Purple Vienna

Similar to above, but has flesh of purple color. (Pkt. 10c) (oz. 30c) (¼ lb. \$1.00) (lb. \$3.00) postpaid.



## A & M KALE



**Tall Scotch Kale**

**Culture**—Seed should be sown thinly in drills, about the middle of June for the tall sorts; transplant the young plants twelve inches apart in rows three feet apart. Later in the season the dwarf sorts may be sown rather thickly in drills to furnish small heads to be cooked like spinach. One ounce to 100 feet of drill.

**Tall Scotch** This makes a beautiful plant, about two-and-a-half feet tall. (Pkt. 10c) (oz. 25c) (¼ lb. 65c) (lb. \$2.00) postpaid.

## WHERE TO FIND US



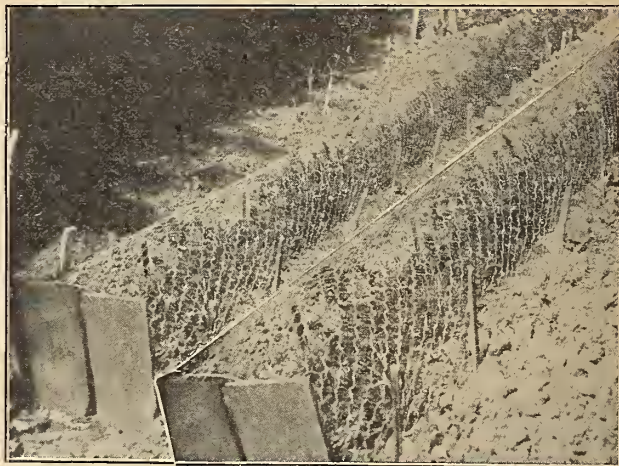
The Arrow Indicates the Location of Our Market Branch  
Los Angeles Terminal Market—the Largest Market  
Place in the World.

Here is a complete working community. A produce exchange, Bank, Hotel, Restaurant, Market Stalls for the retailer, and shipping facilities for wholesale.

This is an afternoon picture; an early morning picture would show a thousand trucks lined in four rows from one end to the other.

**Jersey Kale** A tall variety with smooth leaves. Especially used for poultry greens. (Pkt. 10c) (oz. 20c) (¼ lb. 45c) (lb. \$1.25) postpaid.

**Siberian Kale** We believe this to be superior to other varieties because it grows more greens for poultry, and is of better flavor for the table. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.



A valuable suggestion to the small gardener

One inch mesh wire netting, two feet wide, arched over the row of lettuce is a sure protection against birds, chickens or other animals about the place. It is economical because it may be used repeatedly for many years.

## SPEAKING OF BIRDS

### Call and See Our Canaries

They are

**ROLLERS, TRILLERS AND WARBLERS**

Ranging in Price from

**\$7.50 to \$35.00**

If you have Canaries, get a line on our  
**BIRD SEED, BIRD REMEDIES AND BIRD SUPPLIES**

Also

**Dog Biscuits and Dog Remedies**



Through the Market Gate Into Our Store

Our Market Branch Store is at 767 South Central Avenue, opposite the Terminal Market. It is requiring six experienced men under the capable management of Louis Worthington.





Los Angeles Market or New York Special  
This Lettuce Helped to Make Los Angeles the Richest Agricultural County in the United States

California leads all other states in the growing and shipping of Lettuce. Los Angeles County alone grows 5,500 acres; Imperial County as much more, and fully 5,000 acres is planted in the other counties of California, 16,000 acres of Lettuce, and all of it the Los Angeles Market variety. Why? Because it is the best shipper, as well as the best lettuce.

**How to Raise Lettuce** In Bulletin No. 160, entitled, "Lettuce Growing in California," by Prof. Stanley S. Rogers, published by the University of California in 1917, the author predicted great development of the lettuce industry in California because of the growing demand for California-grown lettuce. His prophecy has been fulfilled beyond his wildest imagination. At that time approximately 2000 acres were planted to lettuce for shipping. Within the same time the demand for our strain of seed has increased ten-fold. Credit must be given our dependable seed for building up this enormous shipping business. In normal times the grower usually received 40 cents per crate for first-class lettuce, now rarely less than \$1.00 and often \$3.00. One crate contains from four to six dozen heads.

There are 30,000 plants per acre. It is reasonable to expect 24,000 marketable heads or 2000 dozen, about 400 crates at \$1.00 per crate, or \$400 per acre. With a market for all of it at a price to the eastern consumer of 20 to 25 cents a head it is not surprising that the lettuce industry has grown to enormous proportions.

#### CULTURE

Lettuce is very exacting as to soil requirements. It is best suited to a rich, light loam, and should never be planted on soils of poor quality. Irrigation is necessary throughout the entire growing period, except during the rainy season, but the crop is easily ruined by an excess of water. The crop stands cold better than heat, and in many of the interior valleys of the state it is impossible to raise lettuce of good quality during the summer.

At the time of planting, the soil should be in the finest possible condition. Many growers apply from 15 to 25 tons of manure per acre. The plants should be grown on ridges, 12 to 18 inches wide, four to six inches high, and ten to fifteen inches apart. The water should be run between the ridges and not flow over the tops, and should never be allowed to cover the plants. There should always be an adequate amount of moisture in the soil from the time the plants have commenced to head until they have matured. The hoeings necessary on raised beds will vary from one to three times. The earth around the plants should not be allowed to harden.

In the interior valleys and especially in Central California plants set in the field during September should mature during December. In warm weather the lettuce should be cut early in the morning and never when the heads are wet, as in that condition they will heat and quickly rot. The field is gone over from two to five times during the cutting season.

### Why is Imperial Lettuce Larger?

Probably because they allow it to mature to good size. Los Angeles growers are too impatient to fill orders, and this impatience is costing them one-fourth of their crop. This temptation to sell before the crops mature too often robs the grower of his profit. Remember almost all crops nearly double their tonnage the last two weeks of growth.

**Iceberg** This is next to Los Angeles Market as the leading variety for the Southwest during the summer months. Of course it is better during the winter months, but not so solid as the Los Angeles Market, which is strictly a winter variety, while the Iceberg is a good all-season lettuce, and hundreds of carloads of Iceberg are being shipped when the other is not available. Iceberg Lettuce planted later than March 1st should be grown on dark, heavy soil, because if grown on light, sandy soil, the heat of the sun reflected from the sand on the under side of the leaves causes them to burn almost to the heart.

The light green, curled, red-tinged leaves of the Iceberg form heads as large as the Los Angeles Market, but not so solid, but it is as tender and crisp, and is of excellent flavor. (Pkt. 10c) (oz. 25c) (1/4 lb. 85c) (lb. \$2.50) postpaid.

The Lettuce planting of 1921 was the largest in acreage, but there was no market and thousands of acres wasted in the field. But there has been no falling off in the demand for our strain of seed. We sold more than ever before, for the reason that our seed has proven dependable.

### Los Angeles Market or New York Special

Five thousand, seven hundred and sixty-four carloads of Lettuce was shipped out of California during 1920, worth approximately \$23,000,000, and about as much more from other sections of the Southwest, and all of it the Los Angeles Market Variety, which we discovered, tried it out and shipped the first crate to the far east. We introduced this lettuce in 1906. It has done much to advance the agricultural wealth of the Southwest and will continue to do so.

The large heads, often weighing over two pounds, are frequently mistaken for cabbage. Our seed has been standard for many years, and because we always carry our stock from one year to the next, our seed germinates. (Pkt. 10c) (oz. 50c) (1/4 lb. \$1.50) (lb. \$5.00) postpaid.

Last season your Los Angeles Market Lettuce beat Big Boston badly, many heads weighing 3 lbs or over, and covering the ground.

PETER GARDNER, Palatka, Fla.

"I feel safe to say that the Los Angeles Market Lettuce is by far the most popular that we grow."

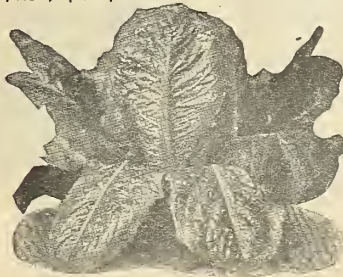
(Signed) "J. H. TULL, Supt. of Markets, Memphis, Tenn."



#### How to Grow Lettuce.

**Big Boston** Very large, smooth-leaved, solid-heading variety grown more extensively throughout the east and south than any other. It is congenial to all climates, and is a good shipper. In flavor it probably excels all other smooth-leaved varieties. An excellent all-year 'round lettuce. (Pkt. 10c) (oz. 25c) (1/4 lb. 85c) (lb. \$2.50) postpaid.

**Hanson** Without exception this is the best variety for late spring and mid-summer crop. Prof. F. W. Mally, Farm Demonstrator of Webb County, Texas, discovered Hanson Lettuce to be resistant to both heat and disease, and particularly resistant to eel worm which is often prevalent where least expected. Hanson Lettuce is similar to the Iceberg Lettuce, except that it has not the tinge of red. We recommend it for the home garden. (Pkt. 10c) (oz. 20c) (1/4 lb. 50c) (lb. \$1.50) postpaid.



Paris White Cos

### Paris White Cos

This might well be spoken of as the "Aristocrat" for the reason it is used almost exclusively at aristocratic clubs and hotels for salads, because it is crisp and has a delicious, nutty flavor.

Gardeners would profit to give more attention to this variety. (Pkt. 10c) (oz. 20c) (1/4 lb. 60c) (lb. \$1.75) postpaid.



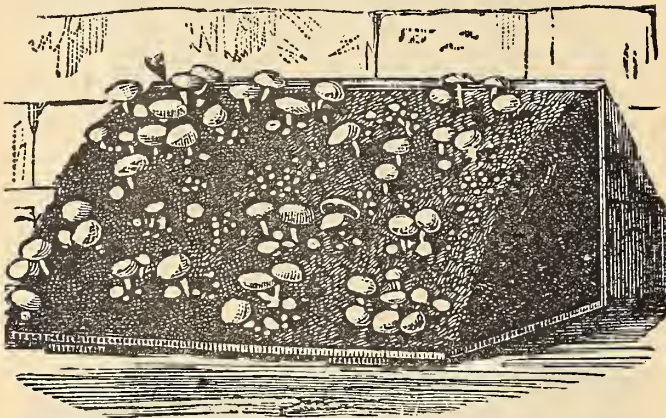
**LETTUCE—Continued**

**May King** Very similar to Big Boston, without the tinge of red. It is a good shipper and of excellent flavor. (Pkt. 10c) (oz. 20c) (¼ lb. 60c) (lb. \$1.75) postpaid.

**California Cream Butter** This lettuce is similar to the Big Boston. Is a good shipping variety. One gardener sold from one-half acre of this lettuce nearly three hundred dollars' worth. It is of good flavor and beautiful in appearance. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

**Marblehead** A lettuce of great favor in the East because of its delightful flavor, and because it there grows to perfection from early spring until late fall. For the Southwest it is our best summer lettuce, but like all other varieties with us, it attains its perfection during our winter months. Plant all the year 'round. (Pkt. 10c) (oz. 20c) (¼ lb. 85c) (lb. \$2.50) postpaid.

**Early Curled Simpson** This is a very popular variety as a loose leaf lettuce. The leaves are large, thin, very tender and of a very good quality. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

**A & M Mushrooms**

One of the most profitable crops for the outlay that can be grown. The market is sure, because the supply never equals the demand. Mushrooms can be grown in any dark room or cellar where the temperature can be kept at 50 to 75 degrees. The main conditions in mushroom growing are proper and uniform temperature, and very rich soil. One pound of spawn is sufficient for a bed 2x8 feet. We have the very best spawn obtainable. If interested, write for circular.

**Pure Culture Spawn—Brandywine**—Put up in bricks. Per brick 40c) (5 bricks \$1.75) prepaid.

Address University of California, College of Agriculture, Berkeley, Cal. Ask for Circular No. 84, entitled, Mushrooms and Toadstools.

Many inquiries come to us from wood-be growers of mushrooms. Our reply is not always encouraging because many growers have marvelous success for a time, but we know of not one permanently prosperous grower. There seems to be an element of uncertainty. The green-horn often succeeds where the professional grower fails.

If you have a favorable spot on your place, try it.

**Yellow Seeded Mustard**

Chinese White Mustard

Used extensively for spicing, pickling and other culinary and medicinal purposes. The young plants make delicious greens. (Pkt. 10c) (oz. 20c) (lb. 50c) postpaid.

**Southern Giant**

The true curled-leaf variety so popular in the South for planting in the fall. (Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.25) postpaid.

**Ostrich Plume**

Is delicious as well as ornamental; the leaves resemble ostrich plumes, hence the name. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

**Chinese White**

This is a delicious vegetable and flavors strongly of Brussels Sprouts, being less pungent than the American varieties. It is greatly relished by the Orientals, and can be seen all the year 'round at vegetable stands kept by the Japanese and Chinese. (Pkt. 10c) (oz. 30c) (¼ lb. \$1.00) (lb. \$3.00) postpaid.



Chinese Green Mustard

**Chinese Green**

This is an Oriental vegetable, and like the White Mustard, is grown all the year 'round, but like our American Spinach, thrives best in the winter season. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

**A & M LEEK**

**A & M Leek** We believe in having the best of everything. With this idea always before us, we have secured this fancy strain of leek. It is large, white, tender and mild—the best in the world. Its mild, delicate flavor makes a delightful addition to lettuce salad. (Pkt. 10c) (oz. 35c) (¼ lb. \$1.15) (lb. \$3.50) postpaid.

**A Home and Business that Paid for Itself Within Five Years**

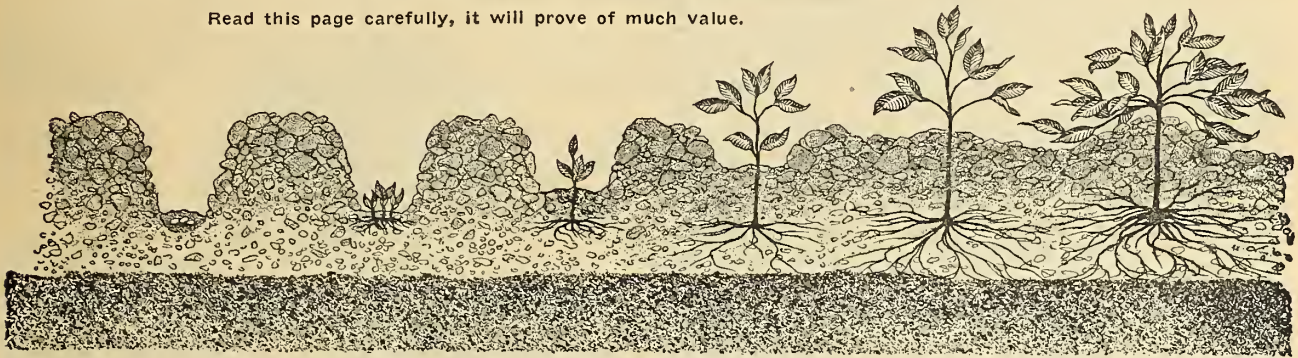
Six years ago a grower bought two acres of ground near Los Angeles, with money enough to make only a partial payment. With the help of his good wife, they built up a plant business that has made them worth \$15,000. Others can do likewise if they will learn and work.



# Deep Planting to Insure a Healthy Growth

Culture for Watermelons and Muskmelons

Read this page carefully, it will prove of much value.



Planting

Second Week

Third Week

Fifth Week

Seventh Week Last Cultivation

## READ CAREFULLY (STUDY PICTURE)

Pulverize the soil thoroughly 10 inches or deeper. Make your furrows deep; plant the seed in the bottom of the furrow, and cover one inch deep for the vine seeds and two inches for potatoes. In one week the sprout should be above the ground and the plant well rooted. In two or three weeks the vines will be beyond danger from the beetle and should be thinned leaving two plants, and the earth drawn toward the plant until it is about level. In four or five weeks, with plow or cultivator, throw the earth around the plant until the soil is hilled up about the plant and the root system is ten or twelve inches below surface, but bear in mind that the little feeders come to the surface, and after five or six weeks, cultivation should not be more than two inches deep.

If this method is followed, there will be little danger from blight and the vines will be healthy enough to resist other diseases.

**Remember**—Apply this method also when transplanting Tomatoes, Cabbage, Cauliflower and almost anything but Sweet Potatoes.

## Important Information on Culture

A good rule for planting and irrigating melons, squash, pumpkins, cucumbers and tomato plants,

The soil must be thoroughly soaked down to submoisture, either by rain or irrigation. When dry enough plow ten or twelve inches deep. Thoroughly pulverize the soil. Make furrows eight or ten inches deep.

Plant the seed in the furrow at regular distances apart, four feet for cucumbers and bush squash, six feet for muskmelons; eight feet for casabas, and nine feet for watermelons, pumpkins and vining squash.

As the plant grows gather the soil around it until the roots are twelve inches or more below the surface. Thin out all surplus plants as soon as they are hardy and well established. The rows are now straight and an equal distance apart. This makes it easy to cultivate close to the hills, both lengthwise and crosswise. Cultivate deeply as long as there is no danger of disturbing the roots. Be always mindful that the roots are as long as the vine, therefore, when working close to the hills and among the vines, let the hoeing or cultivating be shallow.

Always cultivate the irrigation furrow as soon as it is dry enough to mulch nicely.

Heavy soil or loam requires less frequent irrigation than sandy soil. The term irrigation means soaking the soil thoroughly, not lightly.

If this rule is intelligently adhered to your vines will never suffer from drouth, or root blight, and will be healthier in every way, because the roots are deep down in the cool, moist earth unaffected by the heat of the sun. This is the secret of success with all midsummer planting.

This method also applies to the transplanting of tomatoes.

Each year this entire page is given to guide the planter to success, from the preparation of the soil to the marketing of the crop. Melons are a short season crop and need constant and active attention until the last melon is marketed. Therefore some suggestions to the inexperienced grower may guard against failures, discouragements and bankruptcy. On the other hand this page may help a grower to success.

## For Early Cucumbers, Melons and Squash

Protect Your Plants Against Frost and Insects

## Wax Paper Plant Cover

THE ONLY SURE PROTECTION



The Wax Paper Plant Cover is the only sure protection against late frost and insects during the early growth of your vines and at an insignificant expense as compared with the cost of insecticides, the continual labor of combatting insects and other pests, and the cost of replanting, besides having a large percentage of vacant hills.

**THE WAX PAPER PLANT COVER** prevents all this at a cost of less than 1 cent per hill.

We have two grades of paper; either grade is good enough to endure the season. Samples will be furnished upon request.

### Parchmyon

Size	Weight Per M	Price		
		1000 to 4000 Per M	5000 to 9000 Per M	10,000 or more, Per M
12x12	8 lb. 6 oz.	\$ 2.75	\$ 2.60	\$ 2.50
14x15	12 lb. 3 oz.	5.50	5.35	5.25
18x24	25 lbs.	10.50	10.25	10.00
<b>Bleached Wax</b>				
14x15	16 lb. 8 oz.	6.00	5.85	5.70
18x24	34 lb. 4 oz.	12.50	12.25	12.00
24x36	66 lbs.	20.00	18.75	18.50

## FOR ALL KINDS OF MELONS

**FOR APHIS**—First keep the vines hardy by deep planting and proper cultivation, irrigation and fertilizing. Then if the aphid appears, which is unlikely, spray with Black Leaf 40, or bury the affected part with dust. Either way is a constant fight. Lady bugs in some instances are destroying the aphids very satisfactorily.

**FOR MELON BLIGHT** that is caused by a fungus at the root, spray the hill freely with Bordeaux so that the liquid will follow the stem several inches beneath the surface. This should be done as a precaution rather than as a remedy.

**READ THIS.** If you would prolong the life of your vines, make a path between the rows by training the vines to grow along the rows and not across from one row to the other. Then at picking time do not allow the pickers to tread upon the vines. To do so makes many culls and shortens the life of the vines and lessens your profit about one-third.

For a good yield of melons grow a crop of *Melilotus indica* during the winter. Plow under during February; broadcast two sacks each of Toro Sulphur and lime. This is a guarantee against blight and will fertilize your field as nothing else will do.



All large melon growers are now using the Segment Corn Planter — it does the work better. Price \$2.00 f. o. b. here. Wt. 5 lbs.



# A & M Casabas

These Casabas Helped to Make Los Angeles the Richest County in the United States.

The Casaba can be grown successfully throughout the Southwest.

The Casaba is now at full zenith of popularity. Previously it was grown as a late melon to mature after the cantaloupe season. As a late melon its popularity was confined to a limited section near the Coast of Southern California. But it is now demonstrated that it can be grown in all semi-arid sections side-by-side with the early cantaloupes and watermelons. The carloads of large perfect Casabas of the Golden Beauty variety that were shipped from the San Joaquin Valley during the past two seasons, have proven the value of the Casaba as an early melon and good shipper equal to the watermelon and cantaloupe. Casabas are shipped to Los Angeles and San Francisco without crating, as are watermelons. They are crated and packed in straw for Eastern shipment.

Our prophecy made years ago is now fully realized. We then stated that Casabas would be shipped to Eastern markets in carloads, becoming one of California's many commercial products of great value. Stanislaus and Los Angeles counties are most conspicuous as shipping centers. More than one thousand carloads were shipped from these points in normal times.

The introduction of the Hybrid Casaba is a conspicuous example of our persistency in bringing before our growers what we have decided to be a good and meritorious introduction. We knew its merits and were determined that others should know. After fifteen years of continued advertising, the Hybrid Casaba is now acknowledged the most delicious of all melons.

If anyone doubts this assertion, get some nice large Hybrids, no matter which strain, keep them in a warm place until just soft enough to make an impression with the thumb, like in a mellow apple. Put in the ice box for twenty-four hours, then when thirsty and hungry, eat it. You will be convinced it is prince of all melons.

Cultivate the same as muskmelons. Plant according to your locality, from February 15th until July 15th; for late shipping June 1st to July 15th seems to be the best time for planting it.

Casabas may be taken from the vine as soon as they lose the green luster, but should not be eaten until the hard rind of the Golden Beauty will give slightly under pressure, but the Hybrid is not at its best until the thumb can make an impression as in a mellow apple.

The best way to keep the Casaba late into the fall is to gather them together on the hill and cover them completely with the vines, but do not pick them off the vine.

**Golden Hybrid** Last year we urgently advised the planting of Golden Hybrid, saying the golden color is much in its favor; also that the grower having the Golden Casabas would have preference from the buyer. A few growers took our advice and reported that we were right. Mr. Barnhart says: "His Golden always sold first and as for quality they are just as good as the green and have less tendency to crack open. The rind is just a little bit harder than the green."

Now growers, all we can add is that it is your loss if you will not plant the Golden Hybrid.

The grower who will supply the market with the Golden Hybrid will be the first to sell and command the highest price. (Pkt. 10c) (oz. 35c) (¼ lb. \$1.00) (lb. \$3.00) postpaid.

There were more Golden Hybrids on the market this season than ever before. The dealers say there is no doubt about it, they sell better than the green one.



A & M Hybrid



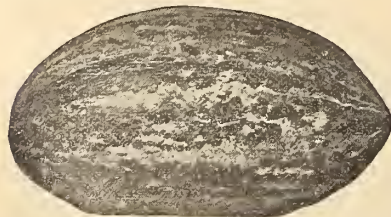
Improved Hybrid  
The Prince of All Casabas  
Introduced by us in 1902

## A & M Hybrid

This is a cross between the Winter Pineapple and the Montreal Muskmelon. It grows to a very large size and is of delicious flavor. It is a rampant grower and yields enormously; as many as seventeen large melons were taken from one vine. It is profitable early and late. Plant from March 1st until July 15th. (Pkt. 10c) (oz. 20c) (¼ lb. 65c) (½ lb. \$1.10) (lb. \$2.00) postpaid.

## Improved Hybrid

The melon that made Los Angeles famous. This melon is now grown as extensively for a midsummer crop as the muskmelon, and finds a ready sale. It originated locally, and is as distinctly a Los Angeles product as is the Los Angeles Market Lettuce. Both have made Los Angeles famous. The local and traveling public are now fully awake to the delicious flavor of this Casaba. For the home garden or for the market plant the Prince of All Casabas. (Pkt. 10c) (oz. 25c) (¼ lb. 80c) (½ lb. \$1.40) (lb. \$2.50) postpaid.



Santa Claus

been equal to the demand for several years. (Pkt. 10c) (oz. 25c) (¼ lb. 80c) (lb. \$2.50) prepaid.

**Winter Pineapple** This is the first of Casabas introduced into America. We have carefully maintained the purity of type so that it is now just as distinct as when introduced more than forty years ago. This and the Golden Beauty are identical in all except color, which when mature is light green. The Winter Pineapple is more profitable as a late melon, therefore we recommend to growers near the Coast that it be planted during June. Our type of Winter Pineapple is round, selected for its good shipping qualities. (Pkt. 10c) (oz. 25c) (¼ lb. 80c) (lb. \$2.50) postpaid.

## Santa Claus

The name is appropriate to the melon. It is a delightful present to send to your Eastern friends at Christmas. It is of delicious flavor, beautiful in its mottled gold and black coloring, and readily keeps until January. We advise that it be grown more extensively for the local trade. The supply has not



Golden Beauty

**Golden Beauty** Introduced by us in 1906, it at once became popular locally. It is now grown more extensively throughout California than any other Casaba because of its beautiful appearance, excellent shipping qualities and delicious flavor. It is the Casaba that added much to the fame of California, as well as adding a million dollars each year to the wealth of the state. (Pkt. 10c) (oz. 25c) (¼ lb. 80c) (lb. \$2.50) postpaid.

**Golden Honey Casaba** This is quite distinct from the other casabas, and you will believe it has some special merit not possessed by the others or we would not offer it. Its great merit is its good keeping, good shipping, good looking and good tasting qualities. It is round as a cannon ball, size of a cocoanut, yellow as an orange, hard and solid as a base ball. May be shipped to New York in November and served for breakfast at Christmas to the delight of the consumer.

Size 6 inches in diameter. Wt. 4 lbs. (Pkt. 5c) (oz. 35c) (¼ lb. \$1.00) (½ lb. \$1.75) (lb. \$3.00) postpaid.



# A & M Muskmelons

For Culture see Pages 29 and 30

## True Armenian or Persian Melon

A. & M.  
Reliable  
SEEDS



Armenian or Persian

Culture the same as for muskmelons. For five years we have labored to get this melon pure. Heretofore the greatest drawback to the grower was the large percentage of off-type and culls. But at last we are able to announce that our seed field was practically 100% pure; therefore, do not hesitate to plant this melon. It is in a class by itself. Large, extremely netted, without ridges, thick yellow flesh of delightful flavor. A good keeper and a good shipper. It should be picked while yet quite solid. Customers should be educated to purchase half a dozen at a time and set them away to be eaten as they become mellow like a Casaba. When properly picked they are ready for the table in six to ten days. (Pkt. 10c) (oz. 60c) (¼ lb. \$2.00) (lb. \$6.00) postpaid.

## Honey Dew

The melon with an appropriate name



Honey Dew

**Honey Dew** The melon with an appropriate name. The Honey Dew again made good last season. It exceeded other melons in popularity on the local market and was profitable to the grower. It yields enormously, and every melon is a good one. It is ready to pull when the color shows the slightest tendency toward yellow, and ready to eat in a few days when it is slightly soft.

The picture is typical of its shape; the average size is about as large as a coconut, but the smaller sized melons are not inferior in flavor. Every melon is a good one. Flesh is light green and sweet as honey. The rind is light green or silvery-gray in color, smooth as an egg and hard as the rind of a winter squash. It is therefore a good shipper. (Pkt. 10c) (oz. 25c) (¼ lb. 85c) (lb. \$2.50) postpaid.

**Yellow Fleshed Columbus** To all external appearances it is like the green fleshed variety, but its cross with the Tip-Top adds flavor to its good keeping qualities, making it a good market melon. Its heavy netting, thick yellow flesh of excellent flavor makes it a very desirable all round melon. (Pkt. 10c) (oz. 30c) (¼ lb. \$1.00) (lb. \$3.00) postpaid.

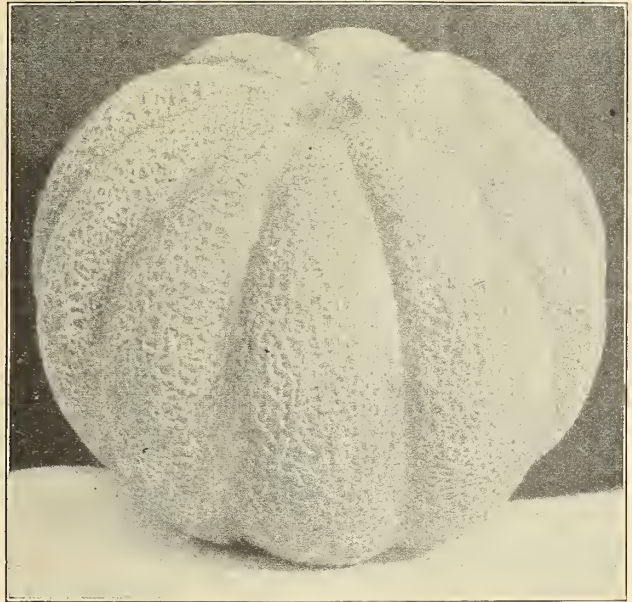


Tip Top

**A & M Tip Top** This melon is very popular almost to the exclusion of any other variety. This is a fine, round melon of such attractive appearance as to always sell quickly in the markets. It is sweet, juicy and delicious. The flesh is firm, but not hard, and is edible almost to the rind. The melon is of medium to large size, and is one of the best yellow fleshed varieties. Our grower says our seed grows melons of uniform type exactly like the picture. (Pkt. 10c) (oz. 25c) (¼ lb. 85c) (lb. \$2.50) postpaid.

## Irondequoit

Better Than Tip-top



**Irondequoit** This excellent melon originated in Irondequoit, New York; hence its name. It is as popular in New York City as the Tip-top is in Los Angeles. Some years ago it created a sensation in the lower San Fernando Valley, but owing to the scarcity of seed one year other varieties were planted and this one was neglected. We sent to Irondequoit and purchased some pedigreed seed from the original introducer and now offer you the pure Irondequoit strain.

This melon may well be called the Improved Tip-top, for that is what it is. The appearance is similar except the netting which is heavier; it is more solid and less prone to split. The average size is slightly larger; the flesh is yellow and the flavor unsurpassed. It is an ideal melon for the peddler or the Cafeteria. It is neither too large nor too small. (Pkt. 10c) (oz. 25c) (¼ lb. 85c) (lb. \$2.50) postpaid.

**Improved Osage** This has for many years been one of the leading varieties in the East because of its earliness and excellent flavor. It is of medium size, salmon flesh, with green rind, similar to the well-known Burrell's Gem. Once a customer for Osage, always a customer. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.



## A &amp; M MUSKMELONS—Continued

## YELLOW FLESH VARIETIES



**The Famous Indiana** This picture perfectly portrays the melon, which has a rich yellow flesh and a flavor that may be compared with the Armenian.

In offering this melon we are quite in line with our established policy of bringing to your attention only the varieties that have been tried, proven and known to be of exceptional merit. We did the experimenting. You take no risk.

Butler Brothers of Lamanda Park, say of it, "It is an improvement over the Tip Top; your seed is pure, the melons are uniform."

A letter from our seed grower says, "All the melons I am growing for you are fully up to your description. The Indiana is by far the best melon that I am growing for you; the seed is very pure, as all the melons are uniform in appearance. It is heavily netted, very thick meat and holds up in good condition for several days. (Pkt. 10c) (oz. 30c) (¼ lb. \$1.00) (lb. \$3.00) postpaid.

**Improved Burrell's Gem** Has established itself as a standard melon. It is one of the biggest yielders. The shipper calls for it because it is solid and carries well in transit. The consumer wants it because of its excellent flavor. The growers all want our seed because we have the best strain. Many growers who bought of us last year have engaged their seed for next season. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

**Pomegranate, or Peach-Melon** For Mangos. (Pkt. 10c)



Pollock 10-25, 100% Pure

California grows more Cantaloupes than any other state. In 1919, 21,470 acres was planted to cantaloupes, nearly three times as much as the next largest acreage, and nearly all of it was planted to Pollard 10-25.

**Rocky Ford-Pollock 10-25** This is the latest improved strain of the popular Rocky Ford. It eliminates every defect of all other strains. Perfect in size, shape, netting, flavor, and long keeping and good shipping qualities. Our seed is from one of the most reliable growers in Colorado. (Pkt. 10c) (oz. 25c) (¼ lb. 75c) (lb. \$2.00) postpaid.

**Our Gold Lined Netted Rock** This is the Rocky Ford with the tinge of yellow around the seed cavity bred up to the highest state of perfection from the rust-resistant strain. The heavy netting forms a rind so hard that it will ship to the far Eastern markets with practically no deterioration. The flavor outclasses all other strains of Rocky Ford. (Pkt. 10c) (oz. 25c) (¼ lb. 75c) (lb. \$2.00) postpaid.

## GREEN FLESH VARIETIES



The Original Gautier Pineapple

**The Original Gautier Pineapple** It is medium to large size, heavily netted, green fleshed with excellent flavor; solid and a good carrier.

The true type was running out and fewer of them grown.

We are now able to announce that we again have the true type and recommend it to melon growers that they may again get the Old Original Pineapple Muskmelon. (Pkt. 10c) (oz. 20c) (¼ lb. 60c) (lb. \$1.75) postpaid.

**A & M Triumph** Is similar to the Pineapple, but not so large. This is much in its favor. It excels the Pineapple, in the excellence of its flavor, and is two weeks earlier. (Pkt. 10c) (oz. 20c) (¼ lb. 60c) (lb. \$1.75) postpaid.

## OLD FAVORITES

Some long time home garden favorite melons of which we have a limited supply; therefore, we offer in packets and ounces only. All are green fleshed varieties. Price for all varieties: (Pkt. 10c) (oz. 20c) postpaid.

California Beauty  
California Giant  
Columbus Green  
Large Hackensack  
Los Angeles Market

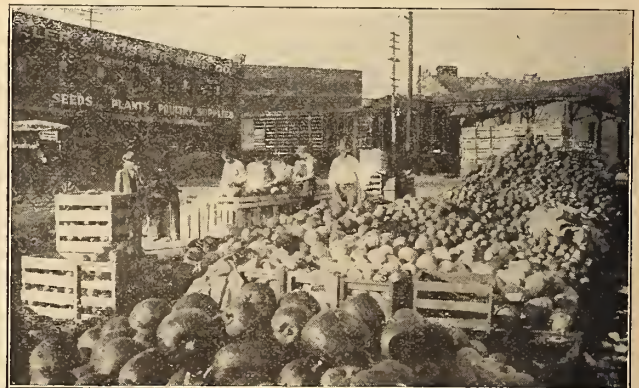
Jenny Lind  
Jenny Lind, Vineless  
Model  
Champion Market  
Montreal Market

**A New Remedy to Combat the Beetle from Wm. E. McAfee, Kentucky:**

"I note your preventive remedy for the Melon beetle. We have one here that is very simple, profitable and effective. When you plant your seed, set an onion set in each hill close to the point where the melon plant will come up. After the plant is out of danger you can market the onion if you so wish. I tried this remedy last year and saw but three bugs in my patch, and these did no harm. I had the same experience with my cucumbers." Or plant some Nasturtium seed in the hill.

## REMARKS

We do not hesitate to state that no market in the world can compare with Los Angeles in the excellence of her melons. The Klondike is a world beater. The Hybrid Casaba is unknown in any other market. The Armenian is in a class by itself. The Tip-top, Indiana, Irondequoit and Burrell's Gem cannot be excelled.



Melon Season at the Market



# A & M Watermelons

3061 Carloads of Watermelons worth about \$1,000,000, were shipped out of California in 1920.

Culture See Page 31

Write United States Department of Agriculture, Bureau of Plant Industry, Washington, D. C., and ask for "Farmer's Bulletin No. 821," Watermelon Culture.

**Culture.**—Plant the seed in a furrow, dropping six seeds every eight or ten feet apart; cover about one inch. As the vines grow, hill the earth about them until the roots are from ten to twelve inches deep. When the vines are safely established, thin out, leaving only two vines to the hill. It is a good plan to establish your rows by throwing the soil toward the center, with two rounds of plowing, and cultivate every week during the early growth of the plants. This gives deep cultivation at the time it is needed, mulches the soil properly, makes proper rows slightly raised in the center, allowing a low place between for irrigating. Be sure to cultivate after each irrigation, as soon as the nature of the soil will permit. If these instructions are carefully followed you will have thrifty vines throughout the season.

**For Melon Wilt**—Pour a cup full of Bordeaux Mixture at the mainstem so that the earth will be saturated and the liquid thoroughly applied to the stem. Here is the seat of the trouble, whether fungus or an insect, and the Bordeaux will remove the cause. Butler Bros. of Lamanda complained to us that their vines were dying of wilt. We recommended this remedy which they at once applied only to the vines attacked, with the result that the vines revived, and in one night appeared to have made a new growth of six inches. They then applied it to the entire field and saved it for the season. But Mr. Butler says toward the close of the season it appeared again, and he believes the Bordeaux should be applied at least twice during the season.

**For Melon Blight** Fertilize with Toro Sulphur and Torrance lime. See pages devoted to Fertilizers.

**Chilian** For twenty-five years the leading melon and just as popular today as at any time, and is likely to continue its popularity for many years to come. Its thin rind and delicious flavor commend it to the consumer, but its good shipping and selling qualities make it a favorite with the grower and dealer. It is very prolific and just a desirable size for the peddler to handle, and every melon is a good one.

**White Seeded Chilian** Preferred because of its large average size. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

**Red Seeded Chilian** Preferred because of a sweet flavor peculiar to itself, and earliness. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

**Black Seeded Chilian** Preferred because of its earliness, short crop and black seed, which gives it preference at restaurants, hotels and caterers. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

All Chilians are good regardless of the color of the seed, but the Black Seeded one is planted for early crop.



Klondike

**Klondike** This is now indisputably the most popular melon on the Los Angeles market. Why? Because it has a flavor quite as distinct from other watermelons as is a Bartlett pear from any other pear, and is sweeter even to the thin rind than any other. It is popular with the grower because it is wonderfully adapted to dry farming, wonderfully prolific, early, long and continuous bearing; the vines seem in their prime in September and October, long after other varieties have disappeared. Planted in rows twenty feet apart on dry soil that has been scientifically prepared the vines will interlace.

The seed is small. One pound of Klondike will number as many seeds as two pounds of other varieties. The color of the seed is brown, mottled black. (Pkt. 10c) (oz. 35c) (¼ lb. \$1.00) (lb. \$3.00) postpaid.

## Read

The Klondike has made good as a shipper. The average weight runs between twenty and twenty-five pounds. It does not wilt like other melons, and not-withstanding its crispness the percentage of loss is no greater. It is the best seller because it is the best melon, and it is just the popular size. — Standlee, Calif.

"One plant of Klondike Melons produced 21 melons weighing 321 lbs. The average would have been about 19 lbs., except for four or five small ones. This vine had water once, and the melons were fine.

(Signed) "S. H. McGowan, Sanger, Calif."

The fame of the Klondike has spread to other cities in California, and tourists have sent seed to other states from whence we receive the same expression of appreciation that we get in Los Angeles. Wherever it is grown it is the best melon, always selling at a higher price than other melons. If you would grow for your own table or for market you will make no mistake to plant Klondike.

## ANGELENO

### The Melon for the Shipper



Black-seeded Angeleno

**Important Notice.**—Owing to the tendency of the seed of this melon to split open, we advise you to soak the seed in water for only a few hours. It soon closes and is ready to plant, and every seed will germinate, but if planted before soaking, the seed fills with dirt and decays. Please heed this notice.

**White Seeded Angeleno** The most attractive in appearance of all watermelons—its large size, beautiful dark green rind with a tinge of gold showing through the green. No other variety compares with the Angeleno in its bright red flesh, red to the rind, and entirely free from fibre, simply melts to water, and not excelled in flavor. If the picker will observe the gold showing through the green as soon as it is ripe, he need never pick an unripe melon.

As a shipper it is extraordinary because it rarely breaks, even supporting the weight of a man weighing 170 pounds. A carload will average in weight from 25 to 30 pounds to the melon. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

**Black Seeded Angeleno** This is the result of cross-pollinating the Angeleno with the Black Seeded Chilian, and several years of selection. This is now the most popular melon shipped out of San Joaquin and Imperial Valleys. This is because of its desirable size, good flavor and excellent shipping qualities.

There is yet a trace of the Chilian stripe in some of them. One grower complained bitterly that his melons were mixed with Citrons, and that he would tell everyone where he got such seed. We told him to wait until the melons were ripe, cut them and then tell where he got the seed. In due time we received the following letter: "The Angelenos are now ripe and I never ate better melons. You are right about it; they can't be beat. I shall tell my neighbors where to get the seed." (Pkt. 10c) (oz. 20c) (¼ lb. 65c) (lb. \$2.00) postpaid.



## A &amp; M WATERMELONS—Continued

## POPULAR SHIPPING MELON

**Irish Gray** This new watermelon has the merit to become very popular as a shipper, also as a late melon. The introducer describes it as follows: "The color of the rind is yellowish grey, resembling a variety of Citron. It will keep in good condition for a long time after being taken from the vine, and stand long distance shipping better than any other melon. The flesh is bright, sparkling red, very sweet and firm. As a home market melon it is better than Kleckley Sweet and for distance shipping it is far better than Tom Watson; it will produce 25 per cent more good melons than Tom Watson under the same conditions and carry 1000 miles and back over the same route then open as good as a freshly picked Tom Watson. The rind will not sun-bake, the vines are most vigorous and wilt resistant." (Pkt. 10c) (oz. 20c) (¼ lb. 65c) (lb. \$2.00) postpaid.

**Tom Watson** has for several seasons been the most popular melon in the South. Its shape is similar to the Kleckley Sweet, but the color is a lighter green. Its great merit is in its earliness, good flavor, thin rind, and good keeping qualities, making it one of the best of shippers. It is popular in the San Joaquin Valley. (Pkt. 10c) (oz. 20c) (¼ oz. 50c) (lb. \$1.50) postpaid.

**Kleckley Sweet** This is an excellent melon either for the home garden or for shipping. It is of medium size, a very green rind, with deep red flesh of delicious flavor. Our seed positively cannot be excelled. (Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.25) postpaid.

**Excel** To the grower and shipper who wants a large melon the Excel fills the bill.

It is oblong, dark green with a suspicion of a stripe, and will average 35 lbs. and is of excellent flavor. It is a good shipper and has maintained its popularity for many years. Our seed is from our own growing and is true to type. (Pkt. 10c) (oz. 20c) (¼ lb. 65c) (lb. \$2.00) postpaid.

**Florida Favorite** This melon is very popular with shippers, because of its extreme earliness, and all round good qualities as a good shipper. In appearance it is similar to the Rattlesnake, the rind being considerably darker. (Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.25) postpaid.

**Peerless** Also called Red-fleshed Ice Cream. This is the melon that proved so popular in Oregon and Idaho. It is early, a good shipper and a delicious melon. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

**Rattlesnake** Has long been a popular melon with shippers. It is a long melon, having a white rind, with dark green stripes. Flesh of excellent flavor. (Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.25) postpaid.

## Yellow-Fleshed Ice Cream Watermelon

This melon grows a very large size, is long in shape and the rind an even dark green. In quality it is simply delicious, sugary and of a rich flavor peculiar to itself. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.



Delicious Winter Melon

**Winter Melon** This new melon is slowly but surely forcing itself into favor because of its many good qualities which are not apparent at first acquaintance. Like the Casaba which required 12 years to establish its reputation. The Winter Melon might easily be mistaken for a small white citron and the dealer must be convinced, then in turn must convert his customers to the knowledge that the Winter Melon is a thing of great luxury. It is late to mature; very light in color with a suspicion of a stripe; size 10 inches in diameter; seed small shiny black, flesh pink, solid and stringless. The flavor when cold is sweet, crisp and surprisingly delicious, and when you have finished you realize that you have eaten a melon as entirely distinct from a water melon, as the Casaba is apart from the Cantaloupe and just as delicious. Like the Casaba it should not be eaten right off the vine, but be allowed to lie around until the first signs of decay. It decays slowly like an apple, not like other water-melons. (Pkt. 10c) (oz. 20c) (¼ lb. \$1.00) (lb. \$3.00) postpaid.

"Your Winter Melon that we tried out last season proved a wonderfully fine melon in our climate; earlier by several days than any other melon planted, and fine keepers."

(Signed) "CORA A. WELLS."

## CITRON

**Large White Citron** Very much preferred by hog raisers for the reason that it is richer in seed and keeps equally as well as the green Citron. (Pkt. 10c) (oz. 20c) (¼ lb. 35c) (lb. \$1.00) postpaid.



Large Green Striped Citron. Wt. 60 lbs.

## Citron Large Green Striped

Weighs from thirty to sixty pounds. Is better than pumpkin for stock. Allowed to lay in field or piled in the barnyard will not be damaged by frost nor decay until the following summer. (Pkt. 10c) (oz. 20c) (¼ lb. 35c) (lb. \$1.00) postpaid.

**Preserving Citron** Red Seeded, small round melon. This melon with a proper portion of lemon makes an excellent preserve that is as good as marmalade. (Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.25) postpaid.

**Our Selected Melon Seed** Owing to our extensive trade with large melon growers and associations, we exercise every precaution possible to secure the best type of melons. Having procured the best seed obtainable, we have them grown especially for us. Our seed fields proved the wisdom of this method, for they showed the highest percent of perfect melons.

Mr. E. A. Aggeler made a tour of inspection of our growing crops. After viewing the various fields of melons here is the report he sent in:

The fields are widely separated, so that there is little likelihood of any cross-pollination. The melons are to all appearances practically true to type. Our grower understands his business and is conscientious, knowing the importance of his responsibility. I am sure this year's seed will maintain our record of high-standing among melon growers."



A Picture from our Field of Florida Favorite

## Formula for Cutworm and Grasshopper Poison for Five Acres

Paris green (or white arsenic).....1 lb.  
Molasses (cheap blackstrap preferably).....2 qts.  
Lemons (or oranges).....½ doz.  
Water.....4 gals.  
Bran (or alfalfa meal).....25 lbs.

Grind lemons with meat grinder, mix all ingredients thoroughly. Spread thinly to avoid danger to livestock.

Best spread in late afternoon.

"I tried all spring and summer to grow cabbage plants, but the cutworms would destroy nearly all of them. In desperation I mixed up the formula given in your catalog. That got them; I have no more trouble. Thanks for the advice."

"HARRY WATTAN."



# A & M Onions

California Grew in 1920, 11,700 Acres of Onions Valued at \$2,200,000

Write

California Agricultural Experiment Station

Circular No. 199

"Onion Growing in California"

By Stanley S. Rogers

**Culture.**—No crop is so liable to variations by cultivation and soil as the onion. Having rich soil with too much irrigation will produce thick-necked scallions, while the same soil, well drained, would produce the finest onions. A sandy loam well fertilized is best.

No vegetable is so sensitive to variations of climate as the onion. It is of utmost importance that the right variety is selected for each month in the year, and for your particular climatic conditions.

Irrigate in the furrow between the ridges to avoid flooding the onion, which causes the onion to rot readily, rendering it unfit to ship or to keep.

To succeed in growing onions it is highly important to make a proper selection of seed suitable to the time of planting. West of the Coast Range plant the Queen variety in August and September. They will then attain marketable size in March and April. If, however, the weather during February and March proves to be cold and rainy, a large percentage will shoot to seed. We advise that you pinch off the seed stem close to the onion. It will heal with no damage to the onion. East of the Coast Range, where the temperature is more uniform, as in Coachella and Imperial Valleys, plant the Crystal Wax or Bermuda onion in September. We advise planting all other varieties from October until April, selected according to the market in which they are to be sold, and the facilities for irrigating.

The consuming public prefers a white onion. The retail merchant wants a yellow onion because the white are too perishable. The shipper will handle the yellow, but prefers the brown because it is the best keeper.

The White Australian should prove popular because of its good keeping qualities.

Three pounds of seed are required to plant one acre for dry mature onions. One ounce will plant one hundred feet of row. For bunching onions, plant one-fourth pound of seed to 100 feet of row.

We claim our onion seed to be the highest type as to germination and purity. When you wish to plant onions consult us as to when, how and what variety to plant.

Onions intended for storage or long keeping should be taken up while the stems are yet green, just showing a tendency to dry up. Experience has proven that this is the best time. When allowed to remain in the field too long they are liable to be sun-scalded, or attacked with smut.

**MARKET:**—The market for onions is large; no other vegetable is in such wide demand and is used largely by all nations over the entire world, yet on account of the perishable nature a wide distribution is not possible; therefore, an over-production is soon a drug on the market and the grower finds the crop worthless.

Therefore, when planting them, select the variety according to the market for which they are intended, also with regard to time of planting in your locality.

For shipment, you will make no mistake to plant Riverside Sweet Spanish, from September 15th until March; White Australian or Silver-skin, Southport White Globe, November 1st until April 1st, and the Australian Brown from January 1st until April 1st.

For early local trade plant New Queen.

**White Portugal, or Silverskin** A good second early white flat onion to follow the Extra Early White Queen. It should be planted any time from November 1st until April 1st. It is a good keeper and desired for shipping. It has long been a favorite, and probably no other variety is more generally popular with growers throughout the United States. Under good cultivation the average diameter is from four to six inches. The thick skin is a clear silvery white, flesh snowwhite, sweet and tender. (Pkt. 10c) (oz. 30c) (¼ lb. \$1.00) (lb. \$3.00) postpaid.

**Southport White Globe** This onion now easily leads all other varieties in popularity on the Los Angeles market, and is selling more readily and at higher prices. It is a good keeper, either in the field or in cold storage. It is a silvery white in color, globe shaped, and of delicious flavor. It is the popular onion with the shipper. (Pkt. 10c) (oz. 30c) (¼ lb. \$1.00) (lb. \$3.00) postpaid.

**Mammoth Silverking** A very early large white flat Onion. One of the very best for the home garden, either as green bunching onions or for large dry onions. It is not a good shipper. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.65) (lb. \$5.00) postpaid.

**Extra Early White Queen** This is by far the earliest and best onion to grow in Southern California. Planted during August and September it attains marketable size in March and April and is sold on the local market as early as the Bermuda. Local growers market them while quite young, cutting the top off close to the onion. They harvest only what can be sold from day to day.

This practice is very profitable for the reason you are selling a green onion at the price of the early dry onion.

For three years we have been unable to obtain seed; on this account growers have used other varieties. But now that sufficient seed may be had we advise growers for local markets, it will add greatly to your profit to plant the Queen Onion next August and September. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

Large Onions are now the style. This has been brought about by the introduction at Riverside, Cal., of

## The A & M Riverside Sweet Spanish

See Back Cover



A. & M. Riverside Sweet Spanish; 10 Onions Fill a Lug Box 14x17 inches

Very large, light yellow, globe shaped, small top, good shipper.

This Onion was brought from Spain several years ago. A small acreage was grown, the product of which was sold at the stores of Riverside, California. The unusual mildness and excellent flavor made this onion popular at once. A larger acreage was grown and the popularity broadened until the onion is in demand in Portland, Oregon, Chicago and as far east as Detroit, Michigan.

It is a good keeper and not prone to smut; we do not say it is immune, but the grower gives the following directions for curing and keeping this onion, and if followed there is little likelihood of smut.

Plant in December or January. It will mature in September when there is no danger from sun scald. Allow the onion to thoroughly mature until the tops have fallen and dried.

Then pull the onions and allow them to remain in the field in rows well covered with the tops, which after a week of favorable weather become as dry as chaff. The tops are then rubbed off and the onion put in crates and stacked loosely in a shaded but well ventilated place. After four to six weeks the onion is so thoroughly cured it may be safely shipped to any city within the United States.

It will be very profitable to the grower who will plant this onion.

To obtain the highest price, this variety should be planted about February 1st; they will then mature about Aug. 1st, and if the prevailing price is too low put them in cold storage. (Pkt. 15c) (oz. 60c) (¼ lb. \$2.00) (lb. \$6.00) postpaid.

### A & M Riverside Sweet Spanish

One reason that the Los Angeles Market excels all the markets of the world in excellence of vegetables is that when Aggeler & Musser Seed Company offer anything that has merit they never let up boosting it until all the world knows how good it is. This Riverside Sweet Spanish Onion is the latest. Be sure to plant it for the home garden, and do not hesitate to plant it in any acreage large or small.

The season of 1921 has broadened the popularity of this onion to such an extent that the grocers will buy no other when this may be had. The reason is that when the consumer once tastes it he insists upon getting more. G. M. Louie of Hynes grew an enormous tonnage on heavy alkaline soil. He stated that the average size was too large to set two layers in a lug box. But bear in mind it is not size of which we are boasting, it is its excellent mild flavor. When eaten with salad there is not the unpleasant taste of the strong onion, and leaves no unpleasant breath.

## BEWARE

We attach so much importance to this onion that we caution you to beware of error due to any misapprehension.

The A & M Riverside Sweet Spanish Onion is a distinct onion and not the same as the Prizetaker, Denia or any other onion. We have tried them all side by side, and the difference is apparent. Don't allow yourself to be deceived into substituting. When you ask us for the A & M Riverside Sweet Spanish Onion you get it.

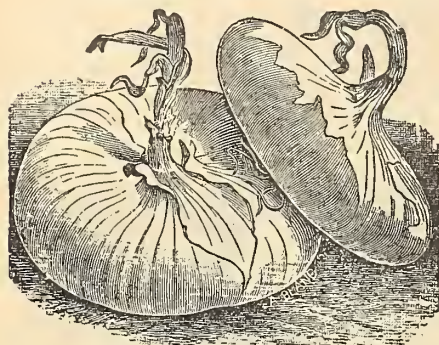
"I planted a packet of your Riverside Sweet Onion seed and after eating all we wanted while they were growing, I have a lug box full of fine large onions. I never saw anything like them, nor tasted any onions so good."

BYRON LINDEMUTH, La Canada, Cal.



## A & M ONIONS—(Continued)

### Crystal Wax and Yellow Bermuda



Crystal Wax Onion

These two varieties go hand in hand; they require the same climate and culture; where one thrives the other also thrives. They mature at the same time and bring about the same price on the market.

The Crystal Wax is a medium sized pure waxy white onion. The Yellow Bermuda is about the same size as the Crystal Wax, but a yellow straw color.

These are the varieties that are grown in Southern

Texas and in Coachella and Imperial Valleys to the exclusion of every other variety. Why? Because they are adapted to that climate; because when planted the latter part of September they mature in March and April, just when the market is bare and the price is highest. Onion growers are satisfied with 300 crates per acre, and 25% off color. Our seed produces 500 to 800 crates per acre, with less than 1% off color.

Crystal Wax—(Pkt. 10c) (oz. 50c) (¼ lb. \$1.65) (lb. \$5.00) postpaid.  
Yellow Bermuda—(Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

### Read

Onion Smut is quite a menace in some sections, cutting the yield nearly in half.

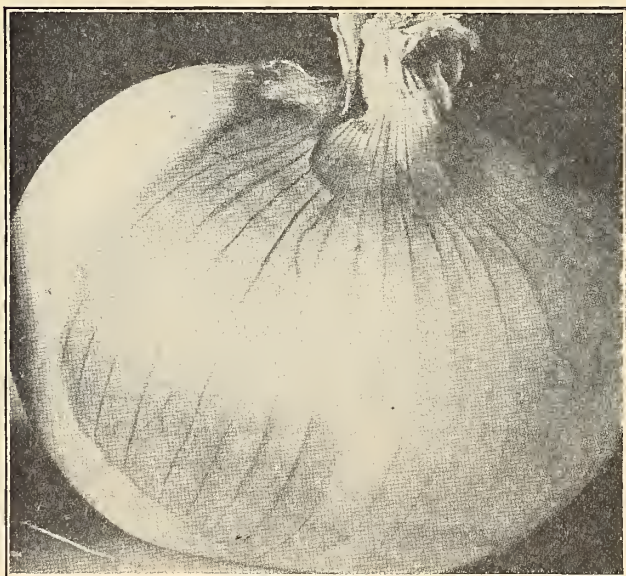
Here is a good remedy: One pint of commercial Formaldehyde to 16 gallons of water; attach to your seeder a tank with a 5/16-inch hole. This will drop the required amount of mixture in the furrow with the seed. One gallon should be sufficient to apply to 180 feet of row.

**Red Bermuda** In shape, like the White Bermuda, color a pale red.

Planted during January matures latter part of June. No other onion is ready for use so quickly after planting seed.

It is the right onion for the home garden. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

### A Good Shipper



White Australian

**White Australian** As compared with the Brown Australian—shape, the same; size, one-quarter larger; keeps as well; is earlier; color is nearly pure white.

Five years ago we had a quantity of this seed which was widely distributed. In New Mexico, Arizona, Texas, and in the San Fernando Valley, California; everywhere it was grown it attracted attention because of its superiority. At that time it was not yet true to type; the seed produced many odd colors, but notwithstanding this fact, the growers wanted it year after year. But we withdrew it until we could by selection produce a white onion true to type. Now after three years of selection we offer you a pure White Australian Onion. (Pkt. 10c) (oz. 45c) (¼ lb. \$1.50) (lb. \$4.50) postpaid.

## THE NEW WAY



Aside from the pictures there is little to be said. Mr. Beach conceived the idea that this three-row system would be more economical and efficient.

It certainly does produce half again as much with very little more labor and water than the old way. It also produces a more uniform grade of onions. How does that strike you for efficiency and economy?

The onions are set four inches apart in rows five inches apart on ridges thirty inches apart from center to center, allowing 195,000 plants per acre instead of 130,000 by the old way.

Beginning at the top—

No. 1—Leveling the ridges.

No. 2—Marking the rows and making holes for the sets, which gives a uniform distance of four inches.

No. 3—Setting the plants.

No. 4—Irrigating the field.

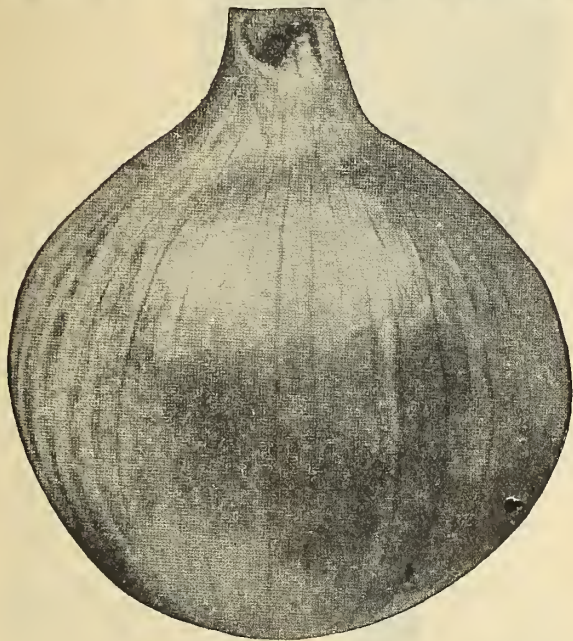
No. 5—Finished product.

This method should appeal to the growers of Bermuda onions. It reduces the cost of production by about one-third.



## ONIONS—(Continued)

**Yellow Australian** At the same time we were by selection fixing the type of the White Australian, there developed an unusually large pure yellow onion which we selected, and now we have only a few pounds of seed. We do not hesitate to advertise this as the largest type of yellow onion in existence. It is much larger than Giant Gibraltar and would surely take a Blue Ribbon at any fair. (Pkt. 10c) (oz. 60c) (¼ lb. \$2.00) (lb. \$6.00) postpaid.



Prizetaker

**Prizetaker** A large Yellow Globe Onion of finest flavor, handsome shape and enormous size, many single onions having been raised to weigh three pounds or over. The Prizetaker grows always to a perfect globe shape with a bright straw-colored skin. (Pkt. 10c) (oz. 25c) (¼ lb. 85c) (lb. \$2.50) postpaid.

**Giant Gibraltar** Large, Brownish Yellow, somewhat flattened on under side; often weighing four lbs. Is a good keeper and is known to be adapted to climatic conditions of the southwest. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.65) (lb. \$5.00) postpaid.

**Denia** One of the large Spanish types with extraordinary mild flavor; nearly a globe shape, slightly flattened, color light yellow. It is popular in the south and we recommend it to gardeners having a large local trade, and who want the heaviest yield possible. (Pkt. 10c) (oz. 35c) (¼ lb. \$1.20) (lb. \$3.50) postpaid.

**Ailsa Craig** Large, light yellow globe. Average weight of 600 onions from one row (not selected) 2½ lbs. Extra selected 3 lbs. 9 oz. Probably the largest and heaviest cropping onion. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.65) (lb. \$5.00) postpaid.

**Ohio Yellow Globe** This onion is the standard winter sort in many markets. The shape is almost globe form and the bulbs are quite large with thin necks. The skin is yellow, while the flesh is pure white, solid and of good quality. Its earliness makes it valuable for market. The crop is very uniform and ripens at one time. (Pkt. 10c) (oz. 25c) (¼ lb. 80c) (lb. \$2.50) postpaid.

**Yellow Flat Danver** Similar to the Yellow Globe in color and quality, but somewhat flattened in shape and is earlier. It is a fine large onion, with a very small stem. (Pkt. 10c) (oz. 20c) (¼ lb. 60c) (lb. \$1.75) postpaid.

**Red Wethersfield** Probably the most popular red onion, and the one grown more largely throughout the United States than any other. It is a large medium flat onion of excellent mild flavor. (Pkt. 10c) (oz. 25c) (¼ lb. 80c) (lb. \$2.50) postpaid.

**Australian Brown** Quick to mature; a good keeper; solid and heavy; an excellent onion for shipping. The skin is a light brown. Its solidity gives it great weight and a sack weighs several pounds heavier than a sack of other varieties. The onions are thin-necked and ripen very early in all soils. As the plant makes a very quick growth it matures the bulbs before the hot, dry summer weather sets in, and this in connection with the exceptional keeping qualities makes it a most profitable variety. (Pkt. 10c) (oz. 20c) (¼ lb. 60c) (lb. \$1.75) postpaid.

**Yellow Globe Danvers** A well known variety of globe shape with pure white flesh and a yellow skin, excellent keeper and shipper, and owing to its earliness, is a good market variety. (Pkt. 10c) (oz. 25c) (¼ lb. 80c) (lb. \$2.50)



Bunching Onions

## Bunching Onion

Many think any white onion will do for a bunching onion, but this is not true. Our growers for fancy trade have learned that we have the best strain of seed for this purpose, and our sales amount to thousands of lbs. each year. The picture shows a sample of what our seeds produce. They are just the right shape. (Pkt. 10c) (oz. 25c) (¼ lb. 80c) (lb. \$2.50) postpaid.

## A &amp; M Onion Sets

The earliest onions are grown from sets planted in September. This brings them in the market in February and March, when prices are highest. About 250 lbs. of sets will plant one acre.

For the home garden no vegetable is so valuable as the onion, and for this purpose it is better to plant sets, because they are ready for the table six weeks after planting. Set them three inches apart in rows six inches apart. When ready for use, take up every other one as needed, allowing the balance to grow to mature size. One pound of sets will plant about fifty feet of row. (Lb. 40c postpaid) (10 lbs. \$3.50 postpaid). For larger quantities write for prices.

## A &amp; M GARLIC

**Cultural Instructions from a Professional Grower**—"I am of the opinion that it would take 250 lbs. to plant an acre of Garlic. I make my rows two feet apart; make double rows, the garlic about four inches apart in the rows each way. I believe in good soil; I can raise between four or five tons per acre. Weeds must never grow in garlic, and it needs plenty of water regularly. If you leave it suffer either for water or cultivation it matures before good size. Garlic planted October 2nd, matured May 7th. The Large White Garlic planted the same time matured in June.

**Market**—The demand for garlic is limited but insistent and the price has a wide range. Before 1914 the normal price ranged from six to twelve cents. (Per lb. 40c) (10 lbs. \$3.50) postpaid.

## A &amp; M Parsley

**Culture**—Same as lettuce.

**Champion Moss Curled** Extra dark. Leaves crimped and curled, giving a most beautiful decorative appearance. (Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.25) postpaid.

**Emerald or Dwarf Extra Curled** Leaves tender and beautifully crimped; handsome, bright green color; very ornamental. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

**Extra Double Curled** A good curled variety for garnishing. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

**Hamburg Turnip Rooted** Fleishy vegetable roots for soups, etc. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

## Average Time Required for Seeds to Sprout

Bean .....	5-10 days	Lettuce .....	6-8 days
Beet .....	7-10 "	Onion .....	7-10 "
Cabbage .....	5-10 "	Pea .....	6-10 "
Carrot .....	12-18 "	Parsnip .....	10-20 "
Cauliflower .....	5-10 "	Pepper .....	9-14 "
Celery .....	10-20 "	Radish .....	3-6 "
Corn .....	5-8 "	Tomato .....	6-12 "
Cucumber .....	6-10 "	Turnip .....	4-8 "

Plant radishes with slow vegetables to mark the rows for cultivation.

"We derived great benefit from the catalog and literature you so kindly sent last year. We want to thank you for this year's catalog, which is invaluable to the gardener, there is so much genuine good information in it.

"WALTER A. KINNEY, Calif."





White Velvet

## A & M Okra

A good and healthful vegetable for a summer crop.

Culture—Plant seed from April 1st until Aug. 15th. Plant six to ten inches apart in rows three feet apart. One ounce will plant one hundred feet of row.

### Early Greenpod

We have for a long time endeavored to produce an okra that is earlier than the White Velvet, which has long been the popular market variety. We have succeeded by selection, in producing not only an earlier variety, but a much more tender and prolific okra, and have named it Aggeler & Musser's Early Greenpod.

It is just the thing for truckers in the Coachella and Imperial Valleys, because it matures in April, fully a month ahead of other varieties; bears continuously until late in the season.

The pods are three to four inches long, deep green in color, and when young are absolutely stringless.

Every early trucker should have this variety. (Pkt. 10c) (oz. 20c) (¼ lb. 45c) (lb. \$1.25) postpaid.

### White Velvet

On account of its attractive white color, good flavor and tender pods when quite young, it has long been a favorite variety. (Pkt. 10c) (oz. 20c) (¼ lb. 45c) (lb. \$1.25) postpaid.

**Mammoth Long Pod** We have greatly improved the original strain and now its productiveness is simply wonderful, the pods shooting out from the bottom of the stalk within three inches of the ground, and the whole plant is covered with them to the height of a man's head, five or six feet. Pods are an intense green in color, of unusual length, nine or ten inches, tender, and of good flavor. (Pkt. 10c) (oz. 20c) (¼ lb. 45c) (lb. \$1.25) postpaid.

## A & M Parsnip



New French  
Parsnip  
Actual Size

### A & M French Parsnip

Just right for the market gardener. The picture shows the actual size at time of marketing. It grows slightly larger, but it attains this size in ninety days, which is a full month earlier than other varieties. It is crisp and succulent. It at once superseded all other varieties because of its all-round desirability. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

**Devonshire** This Parsnip was recommended to us by our European growers. It is scarcely more than half as long as the Hollow Crown, but it is often three inches in diameter. Tender, and has an excellent flavor. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

### Hollow Crown

Has long been a favorite in the family garden on account of its excellent table qualities. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

## A & M Peanuts

If Interested, Ask for Our Bulletin on Peanut Culture. Write Department of Agriculture, Washington, D. C., ask for Farmers' Bulletin 1127

**READ**—The Peanut is too much neglected. Its various uses are of great economic value. Its value as a food is well known, but few ranchers realize its value as a soil renovator, adding humus and nitrogen. As hog food, there is nothing better. The straw is rich in food value and may be pastured green, cured as hay or ensilage, and the yield of hay is from four to five tons per acre. It grows on soil that may be too sandy for other crops. Therefore, if you have sandy soil, make it valuable by planting peanuts.

**MARKET**—There are a number of factories making Peanut Butter and by-products. It is here you can always find a buyer. Reclaim poor sandy soil with peanuts.

Give an application of lime 500 lbs. per acre, and Toro sulphur 200 lbs. per acre. Inoculate the seed with Westrobac.



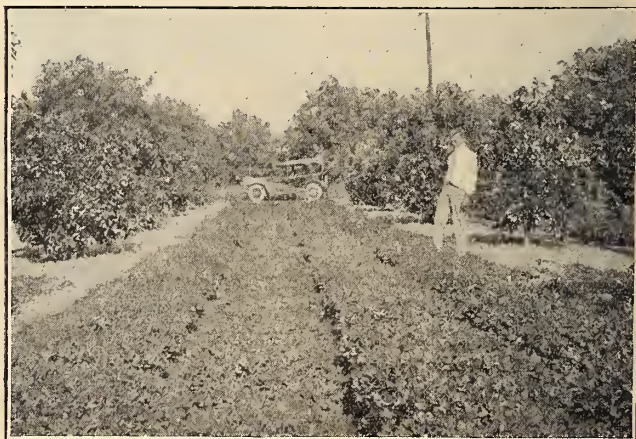
FIELD CURING

The plants are speared over a stake firmly fastened. The peanuts are in the center with the foliage outside protecting the peanut from injury by the sun.

**Virginia Improved Peanut** This variety is much superior to the ordinary Peanut, yielding fewer imperfect pods and combining earliness, productiveness and size; yields on ordinary land about 40 sacks to the acre. (lb. 40c) (10 lbs. \$3.50) postpaid. Write for quantity price.

### Spanish Hulled

This is the small Round Peanut used so largely in confectionery lines. One would suppose that on account of the small size it would be unprofitable to grow. But not so. Mr. Moore, residing on the Laguna Ranch, says it is more profitable to the grower than the Georgia because it is enormously prolific, and grows in a compact bunch on a small vine so that they may be stripped easily by pulling the entire stalk through the hand instead of picking one by one. This advantage, together with the ready sale at a higher price, makes the small Spanish Peanut more profitable than the Georgia. (lb. 35c) (10 lbs. \$3.00) postpaid. Write for quantity price.



Growing Peanuts in a young Orange Orchard is to get your fertilizer for nothing. Harvest the peanuts and plow under the vines.



# A & M Garden Peas

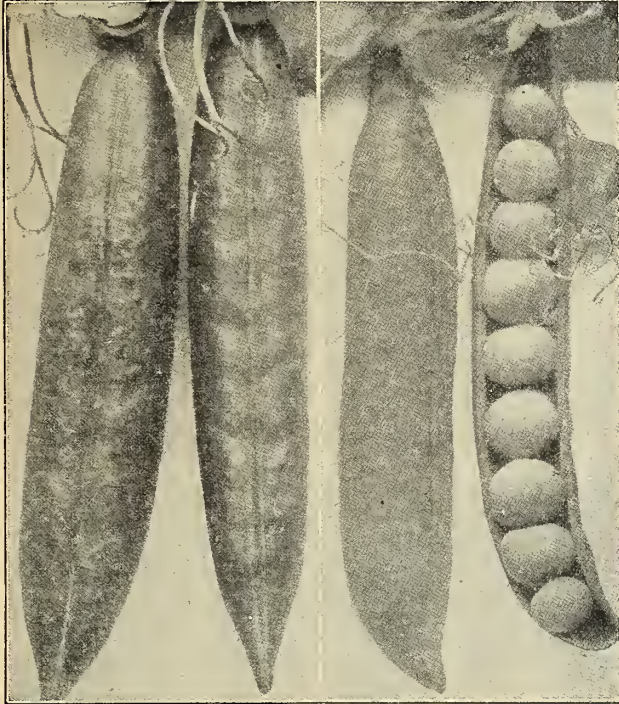
Write for quantity prices on all varieties.

## Garden Peas Easy to Start and Grow

In planting garden peas in the home garden, first prepare the soil the same as for other crops, then scatter a little fertilizer where the row is to be planted, and rake this into the soil. Next stretch a line and make a deep mark with the corner of the hoe. The bottom of this mark should be at least two inches across so that the seed can be spread somewhat, and not crowded too closely together. Scatter the seed in this furrow, ten seeds to the foot, then cover about one inch deep and slightly firm the soil over the seed with the back of the hoe. About one week will generally elapse before the sprout appears above the ground.

At least three, and preferably four, plantings should be made at intervals of two weeks, in order to keep up a continuous supply.

There is nothing particularly difficult about the cultivation of peas—just keep them well hoed, and properly trained upon the brush or wire trellis, to keep them off the ground.



Dwarf Telephone

Admiral

**ADVICE:** For the home garden we recommend Nott's Excelsior, to be planted for very early peas, the Tall Telephones for later crop. Any other of the late varieties offered here are good.

**Culture**—Peas are very susceptible to soil and climate. Within the radius of a few miles of Los Angeles, and in one locality or another peas may be grown every month of the year.

In a thermal zone plant peas from September 1st to February 1st, and in lowlands from January 1st to September 1st. In summer months, from May to September, plant one inch deep in heavy soil and deeper in sandy soil. From December to April plant not more than one inch deep. The object of this is to have the seed deep enough to lie in the moist earth, and shallow enough to get warmth from the sun. Never irrigate after planting peas until they come up. Irrigate before planting, but do not plant until the soil is tillable.

Peas will rot in soil that is too wet, especially during the winter months. They will stand a great deal of frost and cold weather until they bloom, but after they bloom a heavy frost will destroy the pods, and if cold enough, will kill the vines. Many planters sow one hundred pounds of seed per acre, but fifty pounds of seed per acre drilled in rows and well cultivated will produce larger pods and more peas per acre; besides, there will be less mildew. Put the rows north and south for winter planting to give them as much sun as possible.

At the first appearance of mildew spray with the best sulphur obtainable, and do the spraying in the morning. If your soil is sandy it would be well to inoculate the seed with Mulford Culture.

**Stratagem** A favorite in the San Francisco markets. The pods are of a dark green color and remain firm several days after picking. A very strong grower; very prolific, pods of good size and well filled. Vines stand upright about 2½ feet; an excellent variety.

Owing to the scarcity of the Dwarf Telephone for several years the Stratagem was established and it was then discovered to be a better shipper. Its dark green color made it a good seller in the Eastern markets.

(Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

## A & M Perfection Peas

During the past season this proved to be one of the most popular peas among market gardeners. The vines are vigorous and produce 25% more peas than the ordinary early varieties. Pods are large and well filled with tender, sweet peas of excellent flavor. May be planted during the winter months or early spring. What is good for the market gardener is certainly good for the home garden, therefore we recommend A & M Perfections for both. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

## Favorite Varieties for Local Markets

**Admiral or Senator** This excellent variety was introduced locally two years ago with only a limited quantity to offer. Every grower who was fortunate enough to get some was extremely pleased at his good fortune. Has dark green foliage, profusely branching vines bearing abundantly of large, well-filled pods of delicious sweet peas that mature in twelve weeks from planting. The picture is of pods grown on our trial grounds, and shows the shape and actual size of the pod. It has had two years' trial and every gardener that once grows it wants it again. That is 'the best recommendation.

(Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**Tall Telephone** Vines vigorous, growing about 4 feet high, with large, coarse, light-colored leaves and producing an abundance of very large pods filled with immense peas which are tender, sweet, and of excellent flavor. Throughout the south and by some growers in California it is preferred to all other varieties because of the hardness of the vines and its large, well-filled pods, making it one of the best varieties to grow during the winter months for shipping.

(Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**Little Marvel** It is indeed marvelous how prolific is this variety, two pods on every stem. The pods are three to four inches long, filled compactly. The peas are very sweet. Vines 18 inches. If you want an early prolific pea plant the marvel.

(Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**Laxtonian** A long time English favorite. Any variety that can hold its popularity for so long a time must indeed be a good pea. For your home garden you can plant no better.

(Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**Dwarf Telephone** Medium tall; pods very large; medium green peas, very sweet; a favorite with shippers probably because it carries well and commands a high price because of quality.

For years this variety was grown more extensively for shipping than any other.

(Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

California produces 57 per cent of the total asparagus crop of the United States, one-third of the nation's lettuce crop, 27 per cent of all the cantaloupes, 26 per cent of the celery and 24 per cent of the spinach.

These surprising figures, obtained after a lengthy analysis of the Federal farm census report by the Los Angeles Chamber of Commerce, together with the fact that out of 13 classifications, California leads in 6, justify the assertion, it is claimed, that the state ranks first among all states of the Union in vegetable production.

In asserting that California produces three times the annual average vegetable yield of all states, statisticians of the Chamber of Commerce point out that this state holds first place in the production of asparagus, cantaloupes, celery, lettuce, onions and spinach. In its output of green peas and tomatoes, California ranks third; fifth in production of green beans; seventh in watermelons.

**Gradus** The largest of all extra early varieties; medium tall, quality superior to all other varieties.

(Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**Dwarf Gray Sugar** (Edible pods). Of extraordinary yielding qualities, and unsurpassed as an edible-pod variety.

(Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**American Wonder** The earliest of all wrinkled peas. Of dwarf habit, growing from 9 to 11 inches high, and producing a profusion of good-sized and well-filled pods of the finest flavor.

(Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**Nott's Excelsior** Although a few days later than the American Wonder, the pods will average fully one-third larger, containing 6 to 8 large peas, so closely packed together that they become flattened.

(Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

**Yorkshire Hero** A very popular market pea in this section. Abundant cropper and excellent in quality. Height 2½ feet.

(Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

Notice all prices quoted on this page are prepaid.



# A & M Peppers

(See Back Cover)

**Culture**—For early green peppers, sow seed in hot beds in December and January. Transplant as soon as weather and soil in your locality will permit. For main crop sow seed in February, March and April, in hot bed. Pepper seeds need the heat of a hot bed to germinate it during these months. For fall and winter crop sow seed in out-door beds well prepared, during May and June. Winter crops can be grown in places that are entirely frostless.

Many large growers are now planting seed in the fields and thinning out. This does away with the expensive and tedious method of raising plants and transplanting, and is proving satisfactory.

**Peppers** The growing, drying, canning and shipping of peppers is now one of California's big industries, according to the report of a local spice manufacturer. The acreage of 1919 was about 2500 to Mexican and 1000 to Anaheim Chilis. This means about \$750,000 to the growers, and a like amount to the dryer and shipper.

Add to this about 2000 acres of Pimientos which brought to the grower \$500,000, and a like amount to the canner.

Also add 1000 acres planted to Chinese Giant sold only in the green state, brings to the grower from \$200 to \$500 per acre, according to the time of marketing. This adds \$500,000 to the total of about \$3,000,000 exclusive of a profit to the retailer.

Much of this was made possible by our breeding up and introducing the Anaheim Chili and the Pimiento. A few years ago the acreage to Anaheim Chili was about 25 to 1 of Mexican Chili. Now it is about 3 to 1 in favor of the Mexican. This is brought about by the chaotic conditions in Mexico, cutting off the supply from there and Southern California climatic conditions being ideal for growing all kinds of peppers. Large dry houses were constructed and mills were erected for grinding the dried chili for domestic purposes, and shipped in car lots to every distributing point in America.

Large canneries are canning the Chili and Pimiento exclusively, and likewise supplying the world's markets.

This further emphasizes the statement that Wide-awake Seedsmen are valuable upbuilders in their respective communities.

## Anaheim Chili Pepper

Anaheim Chili is desired above all others for culinary use because of its agreeable pungency. Other pungent varieties are intolerable, not so with the Anaheim Chili. That is what makes it the best seller in the market and the best pungent variety for canning. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.65) (lb. \$5.00) postpaid.

It has been proved possible again and again in this vicinity to keep a family of five provided with fresh vegetables the year around on an ordinary city lot. It only requires real interest and reasonable attention.

An amateur may at once become an expert with the aid of this catalog and A & M Seeds.

Anaheim  
Chili  
Actual  
Size

## PIMIENTO



The Pimiento as we imported it in 1906      The Pimiento as we improved it

It Is Now a Big Money Maker

"OUR SEED IS PURE." Owing to the large acreage planted to Chili, the Pimiento growers who planted seed of their own growing found their peppers badly hybridized with chili, resulting in a product that was ill-shaped and pungent, therefore could not be sold on the market nor to the canner. Our seed is pure and true to type, as one large grower testified by ordering his seed from us, discarding his own. He said: "I shall hereafter depend upon you for my seed, because it is the purest I have ever planted."

This pepper was introduced by us in 1911. It has already become one of California's many staples, far out-ranking the Anaheim Chili as a canned product. One cannery used the entire crop from 600 acres of Pimientos. This is because of its lack of pungency and its firm, thick fleshiness, which permits of its being scalded and peeled. It should be grown largely in the family garden, because it is delicious with salads or stuffed, and a healthy food to eat when ripe, as you would eat an apple.

Every home garden should have a row of this Pimiento. For salad, parboil it to remove the skin. Stuffed and baked it is far superior to all other peppers. (Pkt. 10c) (oz. 60c) (¼ lb. \$2.00) (lb. \$6.00) postpaid.



E. C. Ortega factory where the Pimiento and Chilis were first Canned in California

## Mexican Chili

The Mexican Chili has outclassed the Anaheim Chili by many hundreds of acres. We were taught that people living in hot climates were fond of hot peppers, but it seems that it was only a local habit, and that climate had nothing to do with it. The North and East have acquired the habit, and our shippers are having difficulty getting growers to keep pace with the market.

If you have rich sandy loam with irrigation available, there is big money in growing Mexican Chilis at present prices.

If you contemplate growing Chilis consult us about it.

The Mexican Chili is in a class by itself, on account of its extreme pungency. It is not canned, but is used almost exclusively for grinding and sold as cayenne, the trade of which is surprising. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.65) (lb. \$5.00) postpaid.

Our seed is pure and taken from selected peppers grown far from other varieties.

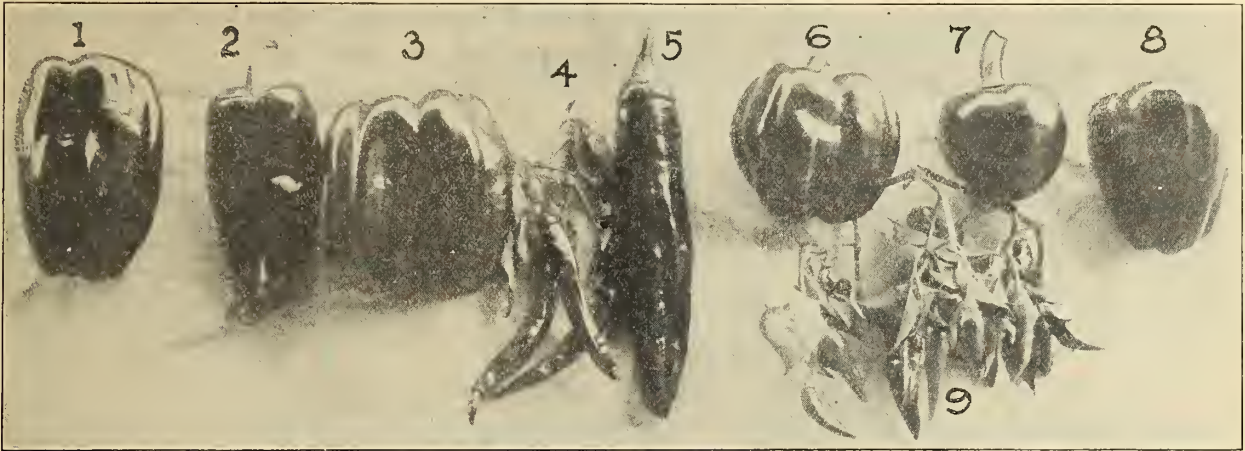


Mexican Chili  
Big Money Maker



## PEPPERS—(Continued)

That you may know the size, No. 5 is nine inches long.



No. 1 Ruby King.  
No. 2 Mexican Chili.  
No. 3 Chinese Giant.

No. 4 Cayenne.  
No. 5 Anaheim Chili.  
No. 6 Bull Nose.

No. 7 Pimiento.  
No. 8 Royal.  
No. 9 Floral Gem.

Nos. 1, 3, 6, 8 are known as Sweet Peppers, and are used for culinary purposes. In Southern California No. 3 is more extensively grown.

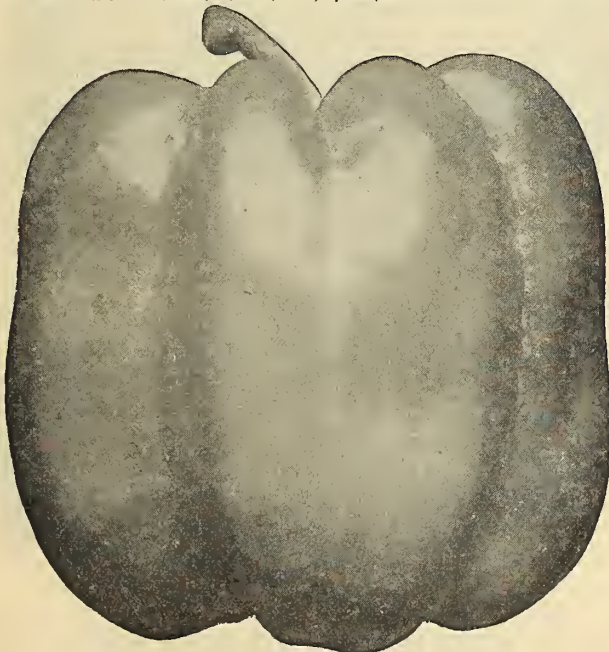
Nos. 2, 4, 5 are very pungent. These are the peppers that are powdered and classed with spices. These are the peppers of commerce.

No. 5 is also canned largely for culinary purposes.

No. 7 is entirely free from any pungency and is grown entirely for canning and for making Pimiento cheese.

No. 9 is a yellow pepper having a delicious pungency that makes it a favorite for pickling.

**Chinese Giant** A very large pepper of the Bull Nose type, often growing to five inches in diameter. This is the variety grown so extensively in frostless sections for the winter trade, when the grower gets as much as 20 cents per pound for the green pepper. One grower claims that his returns from five acres was \$4500. (Pkt. 10c) (oz. 80c) (¼ lb. \$2.65) (lb. \$8.00) postpaid.



Chinese Giant Pepper

**MARKET**—For the market gardener the Chinese Giant is the big money-maker. There are instances—in the foot-hill sections where they can be grown throughout the winter—where the grower sold \$900 worth from one acre, but as a mid-summer crop it is profitable because of its enormous production.

Our field of Chinese Giant was just about 100% pure. Every plant and the peppers they bore were of uniform shape, some of them enormously large. They were growing on rich peat soil. Do not hesitate to place your order.

**A & M Perfect Ruby King** Ordinarily they grow about five inches long by three to four inches thick. Plant is of sturdy, bushy habit, and each one produces handsome fruit. This pepper is popular because of its solid, thick meat and mild flavor. (Pkt. 10c) (oz. 80c) (¼ lb. \$2.65) (lb. \$8.00) postpaid.

## The Royal Pepper



This is an improvement over the Ruby King and the Chinese Giant. While retaining the same delicious flavor of the sweet peppers, it is thicker meat, so much so that it may be canned as is the Pimiento. It is particularly desirable for the table as stuffed pepper, because of the delicious flavor, together with the thickness of rind and cup-like shape.

It is another of the new things that we tried out before recommending it to our trade.

To gardeners we say do not hesitate because a crate of Royal Peppers will weigh as much as a crate and a half of Chinese Giant. (Pkt. 10c) (oz. 80c) (¼ lb. \$2.65) (lb. \$8.00) postpaid.

The Royal

**Bell or Bull Nose** Do not confuse this with the Chinese Giant. It is similar in shape but scarcely more than half as large. It is much more prolific and a very desirable variety for the home garden. (Pkt. 10c) (oz. 80c) (¼ lb. \$2.65) (lb. \$8.00) postpaid.

**Floral Gem** This beautiful yellow pepper became popular several years ago. It is ¼ inch in diameter, 1½ inches long, delightfully pungent with a flavor quite distinct from other peppers, and commands an independent price. The supply has not yet caught up with the ever-increasing demand. (Pkt. 10c) (oz. 80c) postpaid.

**Small Chili** This small pepper is ½ inch in diameter, and two to three inches long. Is very pungent and marketed when quite green, although it is also sold when it has become red. It is an old time favorite and finds a market with cannery and at stores catering to the foreign trade. (Pkt. 10c) (oz. 80c) postpaid.

**Cherry** A very pungent pepper, round as a cherry, about one inch in diameter, marketed when green. Used largely in pickling and by the foreign trade. There is a profit to the person who will specialize on this and other small pungent peppers. (Pkt. 10c) (oz. 80c) postpaid.

**Cayenne** A long, slim pepper, rather pointed, and when ripe, a bright red color. Extremely pungent. (Pkt. 10c) (oz. 80c) (¼ lb. \$2.65) (lb. \$8.00) postpaid.

**Tobasco** The plants develop into large bushes, bearing profusely the little bright peppers in sprays. A mature pepper measures about one inch in length. These peppers are extremely pungent. (Pkt. 10c) (oz. 80c) postpaid.



# A & M Potatoes

(See Cover.)

Write Department of Agriculture, Washington, D. C., for Bulletin No. 533, entitled "Seed Potatoes and How to Produce Them"

## Essential Factors in Successful Potato Growing

The best results cannot be obtained without the **best seed**. Over thirty per cent increase has been obtained through the use of treated seed when grown by the side of what was thought to be extra seed stock but not treated.

Plow deeply, 9 to 12 inches. Cut potatoes to about two eyes.

Treat seed stock before cutting. The very best seed may have traces of one or more of the many diseases to which potatoes are subject. It is, therefore, advisable to soak seed potatoes in a solution which will kill whatever disease may be lurking on the outside of the tubers. Make this solution by dissolving **four ounces of corrosive sublimate** in about two quarts of hot water (be sure it is thoroughly dissolved) in a glass jar and then add to thirty gallons of cold water in wooden vessels. A barrel or wooden tank makes a good receptacle for this purpose. Place the sacks of potatoes in this solution and leave one and one-half hours, then drain, and, if the potatoes are not to be cut immediately spread out to dry. Use the same solution for only four or five lots, as the strength becomes weaker the more it is used. This solution is poisonous and should be handled with care and kept where animals may not drink it. Treated potatoes should also be kept away from stock.

Plant four to five inches deep, 14 inches apart, in rows 36 inches apart.

If potatoes follow alfalfa or Melilotus good yields can usually be obtained without the use of commercial fertilizer; but commercial fertilizer will be found profitable.

Keep soil moist at all times. Do not judge moisture by appearance of the potato plants as when the plants become a very dark green or begin to turn yellow it is then too late to apply water for best results; and potatoes are likely to become rough and knobby.

Turn earth up toward plants a little higher at each cultivation; until at last cultivation the ridges are six to ten inches high and broad at top so that tubers will be kept cool and free from tuber moth infection.

**POTATO INSPECTION**—All potatoes intended for seed purposes must be inspected by the County Horticultural authorities before they may be received and again before they may be shipped out. This is a great protection to the grower.

## MORE AND BETTER POTATOES

We realize that Southern California is not producing potatoes in quantity nor quality equal to other recognized potato growing sections, nor can the reason be assigned to any soil and climatic conditions prevailing here. But it has been clearly proven by demonstration that clean seed will produce **more and better Potatoes**. Therefore the above slogan has been set forth. On account of the almost universal presence in the soil of *Scab* and *Rhizoctonia* it is necessary to treat all seed with corrosive sublimate in order to destroy any germs of disease that may exist.



Mr. A. R. Zengin planted Melilotus indica seed treated with Mulford Culture. Harvested 150 sacks per acre off of 20 acres (See the picture). In 1920 he sold for \$5.00 per 100 lbs. and realized \$14,000; in 1921 he sold for \$1.00 per 100 lbs., and realized \$3,000.

## THE VARIETIES WE OFFER

We offer the certified seed of the following varieties: White Rose, British Queen, American Wonder, Early Red Rose and Triumph. Also select seed of Burbank and other varieties, but not certified

**Reliability.** Aggeler & Musser Seed Company may always be depended upon to overcome any crisis when good seed is essential to successful agriculture.

Five years ago when potato growers despaired of growing clean potatoes in Southern California, we contracted with an experienced grower located in the foothills of the San Bernardino Mountains—a locality long known as a favorable potato growing section—to grow certified seed. The first benefit from this was noted in our 1917 catalog which we quote:

"A field of 30 acres grown from A & M Certified White Rose yielded 200 sacks per acre."

**Certified Seed.** Ever since 1917 our grower has been improving each crop by hill selection of clean typical seed and planting it in uninfected soil. After years of selection, we now offer this crop of clean certified White Rose. This is undoubtedly the cleanest, most typical, seed in existence. In some sections this seed has such a favorable reputation that growers will plant no other. Many Chinamen have learned early that it nearly doubles their crop. They say, "It pays to pay more for certified seed."

We have purchased a large field of certified seed, and with approximately 20,000 sacks of selected and certified seed we can truthfully claim that Aggeler & Musser Seed Company have saved the potato situation.

**Mr. Potato Grower:** This seed will nearly double your crop. Write for price.

**WRITE US** for detailed information concerning the above varieties. Always be sure to consult us concerning seed when you contemplate planting potatoes.

It will cost us nothing to consult us, and may save you from making costly mistakes.



A Typical White Rose

## THE WHITE ROSE LEADS

After a competitive test covering a period of twenty years, the White Rose is today the popular money-maker. Twenty years ago the Red Rose and Burbank were the favorite local varieties. The White Rose soon eclipsed them. The Irish Cobbler, American Wonder, Triumph and lately the British Queen loomed large, but after a test of four years the British Queen proves inferior as a money-maker. This spring will see more acreage planted to White Rose than ever before. It yields a good crop in light or heavy soil.

The White Rose leads because it matures in from eight to ten weeks, large and smooth, satisfactory yield and good for the table. It is a good dependable money-maker.

When you buy seed potatoes from us, you get the variety you ask for. Many dealers in seed potatoes do not know one variety from another.



## POTATOES—(Continued)

### Potato Growers' Convention June 7, 1921

June 7 will go down as a red letter day for Potato growers of Southern California, as on that day growers representing 20,000 acres, unanimously agreed to adopt United States grades in marketing potatoes.

Approximately 300 potato growers met at the W. V. Stahl ranch at Zelzah on the morning of Potato Day to inspect a number of demonstration plots established on this ranch, in co-operation with the Agricultural Extension Service of Los Angeles county.

The three outstanding facts elicited at this place were, (1) the great value of cover crops; (2) the effect of sulphur on scab; (3) the remarkably good stand of potatoes resulting from the use of Temecula-grown seed. Of the four different cover crops used, Melilotus indica gave best results.

This being his first experience with sulphur, its use was purely in the nature of an experiment, and as such the results were not so pronounced, due to lack of experience in the method of application. Despite this fact the potatoes to which the sulphur had been applied were very clean and showed little or no scab. The test was really not a fair one, because of the fact that the sulphur did not have time to oxidize and create the acid condition necessary for the control of scab.

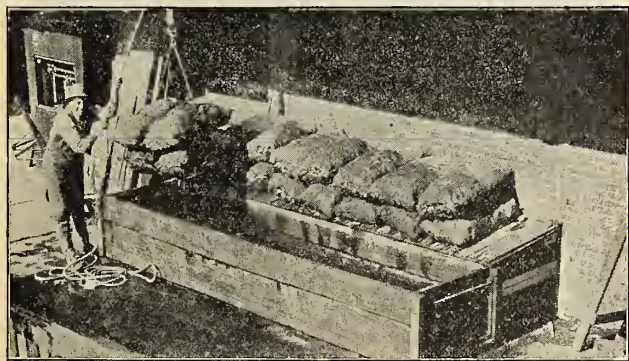
The surprising feature of the morning's field trip was the remarkably uniform and vigorous growth of the field of potatoes secured from outside sections. There was no evidence of rhizoctonia, or the damaging wilt which has played havoc with the spring crop this year. A number of prominent growers contended that it is necessary to bring in seed from some outside district, where careful selection has been practiced. This contention is borne out in numerous instances this year, and seems to put the stamp of approval on the system that is being followed in over twenty of the great potato-producing states.

### What Is U. S. Grade No. 1?

**U. S. Grade No. 1**—This grade shall consist of sound potatoes of similar varietal characteristics which are practically free from dirt or other foreign matter, frost injury, sunburn, second growth, growth cracks, cuts, scab, blight, soft rot and damage caused by disease, insects or mechanical or other means.

The diameter of the potatoes of the round varieties shall not be less than one and seven-eighths inches, and of potatoes of long varieties one and three-fourths inches.

In order to allow for variations incident to commercial grading and handling, five per cent by weight of any lot may be under the prescribed size, and in addition six per cent by weight of any such lot may be below the remaining requirements of this grade; not more than two per cent by weight of the entire lot may have the flesh injured by soft rot.



#### POTATO VAT

#### Treating Potatoes by Dipping Them in Corrosive Sublimite

Pursuant to our policy of doing everything to give our customers the best and cleanest seed possible we have installed a large vat in which all potato seed will be so treated, when requested, at a small additional charge, thereby insuring more and better Potatoes for Southern California.

Price for dipping seed is 35c per 100 lbs. up to one ton.

Price per ton is \$5.00.

### Perine's Sweet Potato Digger

This digger fills every reasonable demand expected of a Sweet Potato Digger in any soil fit to raise Sweet Potatoes. Is also used extensively in the south to dig Carrots, Beets, Parsnips and Celery.

With this digger it is possible to secure every potato without being bruised.

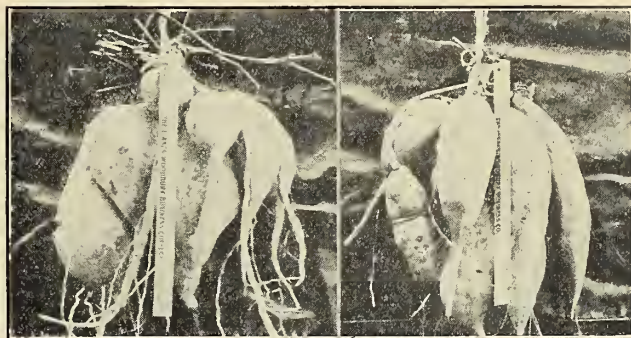
The digger will pay for itself the first year in digging five acres, as it saves much time and labor and enables the grower to secure his entire crop. The price of the digger is so reasonable that even a small grower can afford to have one, and it is indispensable to the large grower.

One market gardener writes: "I can certainly recommend the digger very highly as being the identical thing. Wouldn't be without it. Use it not only for Sweet Potatoes but for Carrots, Parsnips, Beets and especially Celery."

Mr. Geo. M. Reed of Riverside, says he could not afford to be without it. It does the work better than the fork or plow.

All orders should be placed at an early date to insure delivery. Price of Perine's Sweet Potato Digger, complete, \$60.00, f.o.b. Los Angeles. Write for further information.

## A & M Sweet Potatoes



One hill of Porto Rico,  
wt. 14 lbs.

One hill of Nancy Hall,  
wt. 10 lbs.

### Sweet Potatoes for Seed

The handling of sweet potatoes for seed has been unsatisfactory to our customers as well as to ourselves on account of the perishable nature of sweet potatoes. However, if you wish us to secure sweet potatoes for seed purposes we will do so and send them to you at your risk.

Check or cash must accompany order.

If you would have clean Sweet Potatoes, free from disease, there are five important steps to follow:

(1) Careful selection of seed from disease-free hills in the fall; (2) careful sorting of the potatoes before and after treatment in the spring and discarding all that are infected; (3) immersion of the seed potatoes for 8 to 10 minutes in a solution of one ounce of corrosive sublimate to 8 gallons of water; (4) planting in a clean hot bed; (5) planting the slips in a clean field.

Mr. H. A. Brandt plants his Sweet Potatoes in furrows instead of on ridges. The results are satisfactory in sandy loam which has good under-drainage. We suggest that others try it.

**Sweet Potato Plants** We will aim to have in large quantity sufficient plants to meet all demands, but our beds do not always respond to the usual culture, the seasons are not always favorable.

Our grower promises we can accept orders for March 1st delivery.

#### PRICE OF PLANTS POSTPAID

	Per 100	Per 1000
Yellow Jersey .....	\$1.25	\$5.00
Nancy Hall .....	1.50	6.00
Porto Rico .....	1.50	8.00
Red Jersey .....	1.50	8.00

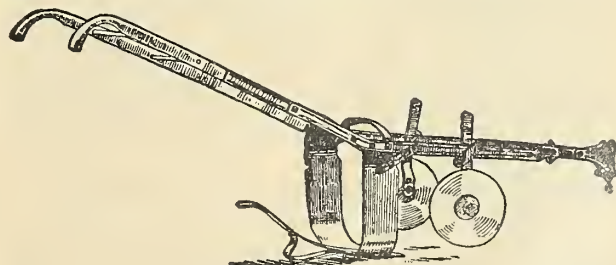
### Write for Quantity Price

**The Nancy Hall** has now established itself in the Sweet Potato market. It is earlier and better than the Yellow Jersey, therefore it is an early money maker. On the other hand it will not keep as well as the Yellow Jersey therefore the latter is the late money maker.

The conclusion is plain that professionals must have both varieties in order to get the best returns from Sweet Potato growing.

#### Dig When Mature

The grower can judge when his Sweet Potatoes are ripe by breaking or cutting one of them and exposing it to the air for a few minutes. The cut or broken surface dries if it is mature, but the surface remains moist if it is not ready to be dug. However, in regions where early frosts occur the potatoes should be dug about the time the first hard frost is expected, regardless of their stage of maturity. It is especially important that they do not remain in the ground during heavy rainstorms after they are fully matured.



#### Perine's Sweet Potato Digger

"Have used the Perine's Sweet Potato Digger this season and find it to be a most wonderful machine; has decreased my cost of digging 75 per cent. Get all my potatoes and in excellent condition."

"Would be glad to have you refer anyone to me. Yours truly,

"J. E. SWIFT, Van Nuys, Calif."

"I could not get along without  
"W. E. KIRKPATRICK."



# A & M Pumpkin



A Field of Cheese Pumpkins Grown for the Cannery.

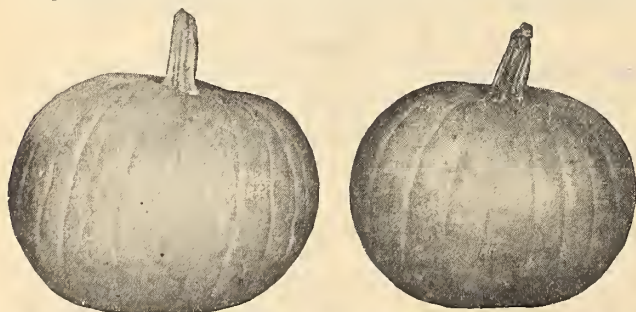
For stock only plant Mammoth King, Estampes, Cushaw, Kentucky Field or Cheese, Sandwich Island, Iron Clad and Connecticut Field.

For the canneries, plant Estampes, Kentucky Field or Cheese. For the home, plant Boston Pie.

**Culture**—Pumpkins delight in rich, sandy soil that is perpetually moist—the soil that retains moisture by the dry farming method, because pumpkins do not want too much water, and to flood them would destroy them, so when irrigating make the furrows nearly as far from the hill as the tip of the vine, and when the vines intersect, run the water through the middle of the row. Plant the seeds every 8 or 10 feet, allowing only one plant to remain.

**Estampes** We have the purest stock seed from which to grow this pumpkin. It is the heaviest pumpkin for its size that we know of; 100 pounds is not an unusual size for them to attain. It is the canner's favorite because of its thick, deep red flesh and the fine sweet flavor. It is without exception the best for dairy stock, and only the scarcity of seed has prevented it from being more widely known. (Pkt. 10c) (¼ lb. 50c) (lb. \$1.50) postpaid.

An Estampes Pumpkin, weighing 131 lbs., was grown on the ranch of Mr. Hathaway. His boys are active intelligent farmers and dairymen, and give us the information that when they feed other pumpkins the cows eat them because they have to, and the milk contains only 3 per cent butterfat, but when they feed the Estampes, the cows are just crazy to get at them, and the milk contains 5 per cent butterfat. "Just to try it out, we again fed other pumpkins and the butterfat fell to 3 per cent."



Sugar, or Boston Pie

**Sugar or Boston Pie** A small handsome variety, and very popular. The skin is a deep orange yellow; flesh fine grained and sweet in taste. Famous in Boston as a pie pumpkin. It sells better on our local market than any other variety except the Jack o' Lantern at Hallowe'en time. (Pkt. 10c) (¼ lb. 50c) (lb. \$1.50) postpaid.

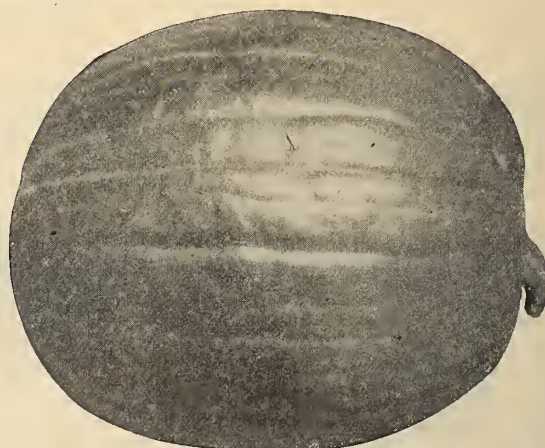
**Cushaw or Crookneck** This excellent pumpkin ought to be planted more largely. There is more pumpkin for its size because of the small seed cavity. It is excellent for pies, and yields enormously. (Pkt. 10c) (¼ lb. 50c) (lb. \$1.50) postpaid.

**Sandwich Island** The most popular pumpkin in Ventura County. It is as hardy as a citron. A good one to plant where water is scarce. (Pkt. 10c) (¼ lb. 35c) (lb. \$1.00) postpaid.

**Kentucky Field or Large Cheese** This variety is locally called Sweet Pumpkin, and is grown more than any other of its kind for stock, because it is a good keeper, notwithstanding it has a soft shell. It is fleshy and very sweet; also good for pie, and is largely used for canning. On one large ranch in the San Fernando Valley there was planted a large acreage to nearly all the popular varieties; this one was unaffected by the hot sun, and remained in perfect condition while other varieties were sun-burned and decayed quickly. (Pkt. 10c) (¼ lb. 35c) (lb. \$1.00) postpaid.

**Mammoth King** This is the large pumpkin so well known locally. As many as 20 tons have been taken from one acre. It not infrequently attains a weight of 200 pounds. (Pkt. 10c) (¼ lb. 45c) (lb. \$1.25) postpaid.

**Japanese Pie** (Green Cushaw) An excellent pumpkin for pies. The flesh is sweet and of a rich salmon color and free from fiber. It is very prolific; on this account it is profitable to grow for stock. (Pkt. 10c) (oz. 20c) (¼ lb. 35c) (lb. \$1.00) postpaid.



Connecticut Field (Jack-o'-Lantern)

**Connecticut Field** (The Jack-o'-Lantern)—This is the pumpkin planted largely for the Hallowe'en and Thanksgiving trade, at which time they bring \$20.00 per ton, and two cents per pound at retail stores. Twenty tons to the acre is no unusual yield. If the land has been manured liberally a full crop can be grown among corn. It is a most excellent keeper, and will be sure wealth to all who grow and feed it liberally. (Pkt. 10c) (¼ lb. 45c) (lb. \$1.25) postpaid.

**MONEY IN GROWING SQUASH AND PUMPKINS.**—The canners consume enormous quantities. They use principally the Estampes and Large Cheese pumpkins, paying about \$6.00 per ton. Next to the canners are the bakers, who use Hubbard Squash and Small Sugar, paying about \$20.00 to \$30.00 per ton.

**PLANT PUMPKINS AND CITRON FOR THE DAIRYMEN** If you have an idle space of rich sandy loam plant pumpkins any time from May 1st to August 15th.

If you have any soil too sandy to grow the usual crops, plant the large green striped citron, you will be sure of a big crop.

Why **A&M**  
reliable  
SEEDS

They Produce Standard Crops



# A & M Radish

Culture—Seed may be sown the year 'round in California. Radishes thrive best in light sandy loam, made rich with manure. Sow in drills 10 inches apart. An ounce of seed will sow a hundred feet of row, 10 pounds to the acre.

## Early Scarlet Turnip

One of the earliest and best sorts for forcing; its color is very handsome; flavor very mild, crisp and juicy; stands a great amount of heat without becoming pithy. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

## French Breakfast

A splendid variety, medium-sized, olive-shaped, very crisp and tender; of a beautiful scarlet color. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

## Epicure Radish

Ready for the table within three weeks; always crisp, a delightful relish. The small round red and white radishes make a pretty showing. (Pkt. 10c) (oz. 20c) (¼ lb. 65c) (lb. \$2.00) postpaid.

**Chartiers** A distinct, exceedingly handsome and attractive sort; color of top scarlet rose, shading into pure waxy white at the tip. Attains a large size before it becomes unfit for the table. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

## Early Long Scarlet

Very brittle and crisp; color a bright scarlet; small top. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

## Round Black Spanish

A delicious crisp, winter radish. It sells well at the market. (Pkt. 10c) (oz. 20c) (¼ lb. 60c) (lb. \$1.75) postpaid.

## Large White Chinese

This is a winter radish of deliciously sweet flavor; can be eaten as a turnip as it is without stringency. The Chinamen use this variety exclusively. (Pkt. 10c) (oz. 20c) (¼ lb. 60c) (lb. \$1.75) postpaid.



China Rose



Scarlet Turnip White Tip Radish

## White Tipped Scarlet Turnip

An early variety of medium size and excellent flavor, and of a very handsome appearance. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

**Long White Icicle** For the home garden we consider this a most excellent table variety. Its extreme earliness, beautiful pure white appearance, excellent flavor and crispness should make it a favorite everywhere. (Pkt. 10c) (oz. 20c) (¼ lb. 60c) (lb. \$1.75) postpaid.

**Crimson Giant** A variety extraordinary in that, while growing to an unusually large size, it is always tender, crisp and of mild flavor. It remains in perfect condition a remarkably long time, and unlike other forcing varieties, does not become pithy even when twice their size in diameter; root turnip shaped; color a beautiful crimson carmine; flesh firm, crisp and tender. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

**All Season Radish** It is a very large, long, snow-white radish; deeply rooted, does not extend above the soil, hence it always is tender and crisp and has a delicious flavor. (Pkt. 10c) (oz. 20c) (¼ lb. 65c) (lb. \$2.00) postpaid.

**Japanese Winter** A half-long white radish more adapted to our winter climate. It compares very favorably with our American varieties, besides it is much larger. (Pkt. 10c) (oz. 25c) (¼ lb. 85c) (lb. \$2.50)

## Japanese Summer Radish

Its beautiful white color and mammoth size attracts great attention. It is very tender and the flavor is exceedingly mild. It attains perfection in California, growing twenty-six inches in length and three inches in diameter. It is a profitable radish to grow, as it sells readily and is relished by all. (Pkt. 10c) (oz. 25c) (¼ lb. 85c) (lb. \$2.50) postpaid.

## California Mammoth

Pure white; the flesh is tender, sweet and crisp, keeps well. Plant from September 1st to March. (Pkt. 10c) (oz. 20c) (¼ lb. 60c) (lb. \$1.75) postpaid.

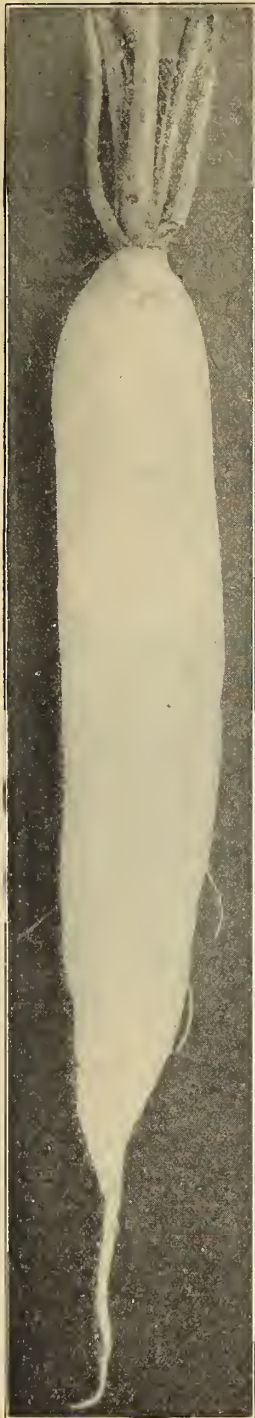
**China Rose** A delicious radish, crisp, with little tendency to become pithy. Skin is a beautiful deep scarlet and flesh pure white. It is a good seller and is in great demand by the vegetable peddlers. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.



All Season



Chartier



Long White Icicle

## Stump Rooted Half Long Scarlet

This variety should be more popular because it is just the right size for table use, not too large, never pithy, but always crisp and sweet. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.



## A & M HORSERADISH

GROW MORE HORSERADISH

Big Money Maker



Horseradish does best on a deep, loamy soil, although it can be grown with greater or less success on almost any type of soil. It should be planted during December and January. A good coat of manure should be plowed under, with an application of 400 or 500 pounds per acre of a good grade of gypsum. If no manure is available, a fertilizer will give good results.

When the soil has been placed in proper condition for planting, it should be marked off in rows thirty inches apart and the Horseradish sets planted in the furrows three to five inches deep and about eighteen inches apart. The cuttings should be the size of a lead pencil or larger. Cultivation should be begun as soon as growth starts and should be continued once a week until the plants are so large it is impossible to get through them.

The yield depends on the late fall rains, as the roots do most of their growing late in the season. Average yields are from 3 to 5 tons to the acre.

The large Bohemian variety is better than our native kind, as it grows much larger and yields more than twice the number of pounds per acre. It does best in this section in a low, rich, sandy soil.

**The Bohemian** Variety is decidedly a more rapid grower than the common. We buy our roots from the far East to avoid the disease so prevalent here. (12 roots 35c) (100 roots \$1.00) postpaid; (1000 roots \$8.00) f.o.b. here.

## A & M RHUBARB

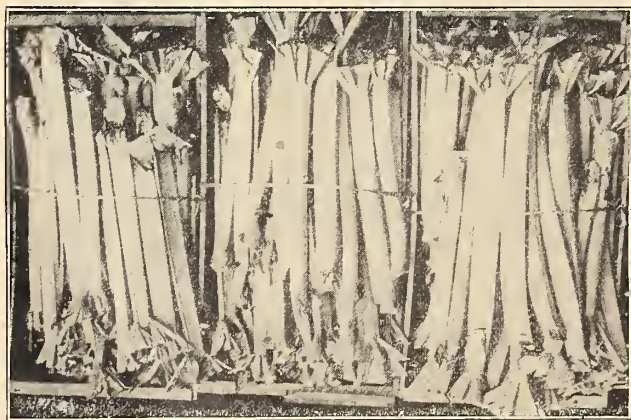
**Culture**—Sow the seed any time from February 1st until July 1st, in drills two feet apart, in order that you may cultivate with a horse cultivator. Within five months after sowing the seed, the Wagner's Giant variety will be large enough to market, even though the roots are not larger than your thumb. Transplant at any time when the roots are as large as a pencil. Rhubarb requires a rich sandy loam, well drained. Never flood the crown nor bury it with soil. Therefore plant it on ridges or on the sides of an irrigating ditch. In our hot climate partial shading is beneficial. If you can do so, plant it in an orchard, setting the roots three feet apart, but if in a sunny place, set the roots 18 inches apart, that the leaves of one plant will shade the crown of another.

**Wagner's Giant** Is undoubtedly the most profitable variety we have yet offered. It is displayed at the market places in apple boxes, and the boxes are barely long enough to accommodate the large, thick stems that will average one-half pound each, often weighing more than a pound. It is remarkably early, bearing large stems within five months from planting the seed, and grows nearly the entire year. The stems are so tender that they do not need peeling. It is not as red as the Winter Crimson, but of good color. (Pkt. 10c) (oz. \$1.40) ¼ lb. \$4.65 (lb. \$18.00) postpaid.

**Strawberry** This is an old favorite and much in demand particularly with northern shippers. Its beautiful color makes it a ready seller at the stores. (Pkt. 15c) (oz. \$1.20) ¼ lb. \$4.00 (lb. \$12.00) postpaid.

## RHUBARB ROOTS

Wagner's Giant Seedling—(15c each) (\$1.50 per dozen)  
(\$10.50 per 100) postpaid



Wagner's Giant Rhubarb in apple boxes, 18 inches long

"Your catalog is a continued source of delight. Expect to send for your seeds in the future. "B. F. PETTIGREW."

## A & M ROSELLE



Roselle Pods  
From Which Jelly is Made

**Culture**—Sow seed early in April in the field, four feet apart, in rows six feet apart. Cultivate as Okra. There is an early and a late Roselle. Be sure to get the early variety because the frost is almost sure to destroy the late variety before it matures. We offer only the early variety.

It is an annual plant that has been sufficiently tested to indicate its great value and to warrant more extended cultivation. The calyx surrounding the seed pod is used as soon as the flower drops for making jelly and jam. The jelly is superior to guava or currant, and labeled as "Queensland Jelly," is shipped from Australia to all parts of Europe. It is easily grown from seed if planted after the ground is warm; grows rapidly, resists drouth and is very ornamental. Every home garden should have a row of this ornamental and useful plant. (Pkt. 10c) (oz. 75c) ¼ lb. \$2.50).

**NOTE**—Our local growers are not up with other localities in advertising and educating the public to the uses of Roselle. The local demand

has never yet been fully supplied, and only a few people ever heard of it. Someone ought to get busy.

We have been advised by a lady from Texas, also one from Cuba, to remove the seed pod, and the jelly is thus greatly improved. The calyx is an excellent substitute for cranberry sauce or pie.

Having received numerous inquiries how to use Roselle, we have decided to insert the answer here. Pick the pods that grow at the axil of each leaf. Boil them until soft and strain through a cloth. Add ½ pint of sugar and the juice of ¼ of a lemon to each pint of juice, and boil again until it jells.

The pods are ready for use in September. We are advised that excellent jelly may be made from the leaves. Therefore it will not be necessary to wait for the pods to mature.

**Put Roselle Pods in water to cover; let stand over night.** In the morning strain, boil to one-half and put in cans; use when needed as lemon juice.

"The Editor of the Family Page of Youth's Companion told me I would be able to get Roselle from you. I am very anxious to try the Roselle, so am sending to you for three packets.

"MRS. J. D. BRINKLEY, North Carolina."

## A & M SALSIFY

**Culture**—Sow the seed in the spring in drills one foot apart and one inch deep, thinning out plants to four inches. It succeeds best in light, well-enriched soil. One ounce of seed for 50 feet of drill.

**Mammoth Sandwich Island** A large and superior variety. Mild and delicately flavored. (Pkt. 10c) (oz. 30c) ¼ lb. 90c (lb. \$2.75) postpaid.

## A & M SORREL

**Broad Leaved** This is boiled and served like spinach, also delicious soup is made with it, and it possesses a very fine flavor. As the hot sun tends to increase its acidity, a northern exposure is advisable. It should be sown in drills 18 inches apart. It is hardy but the roots should be divided every four years. (Pkt. 10c) (oz. 25c) ¼ lb. 75c (lb. \$2.25) postpaid.

## Seedsmen as Observers

Very few people are interested in everything in the catalog, but many growers specialize on certain crops. In order to reach these growers with detailed information concerning these crops we have had printed circulars or bulletins on various subjects that these growers may have for the asking. The seedsmen, because of the wide scope of the work, is of necessity the greatest up-to-date observer or experimenter.

Reports come to him from many growers, often because of extraordinary success, but more frequently the failures are reported, and it is up to the seedsmen to know the cause of such failures.

Thus every grower is the experimenter, the seedsmen, the observer, which gives them a wide range of practical knowledge from actual experience and education. This knowledge is passed along through the medium of the catalog.



# A & M Spinach

Spinach cultivation will be carried on much more extensively in California in the future, according to a bulletin just issued by Stanley S. Rogers of the University of California. This will be due to the great demand for this crop for canning purposes, and for shipping green.

"Spinach is well adapted to a large area in California," Professor Rogers continues, "and may be grown wherever the conditions are favorable for the production of vegetables. Under normal conditions when growing spinach in large tracts, the cost varies from \$25 to \$35 per acre, exclusive of land values or fertilizers. The yield per acre varies from three to five tons, with an average production of four tons. (As much as 8 tons have been grown). When selling to the cannery the customary price is \$25 per ton.

"Spinach is best adapted to a rich, light loam and is not a satisfactory crop to grow on soils of poor quality or those which will not retain moisture. The climate requirements of this crop are very exacting. The plants will stand without injury a relatively low degree of temperature, but are seriously injured by heat. Planting early in the fall and late in the spring should be avoided since the plants will not make a satisfactory growth during hot weather. When planted during the rainy season, provided the soil is of a sandy nature and is free from weeds so that it will not pack wet, this crop may require no cultivation. The crop is ready to harvest in six weeks to three months after planting."

Professor Rogers' article, entitled, "Spinach Growing in California," may be obtained by writing to the University of California College of Agriculture, Berkeley.

**MARKET.**—On the local market there is a uniform demand throughout the year for home consumption, but during the winter months the shipper requires enormous quantities. The canners contract for large acreages each year.

**Garden Culture.**—Sow in drills, one foot apart, and for succession, every two weeks; as it grows, thin out for use, keeping clean of weeds. It grows the year round in California. One ounce of seed for 100 feet of drill; 12 pounds to an acre.



Bloomsdale—Flanders

**Broad-Leaved Flanders** Is one of the best varieties for all purposes, and exceeds others for summer planting. (Pkt. 10c) (¼ lb. 25c) (lb. 75c) postpaid.

**Victoria** An excellent round seeded variety. A great favorite in many sections. It is especially good for early spring and successive plantings throughout the summer and winter. It is a long standing variety with small midrib and thick tender leaf. (Pkt. 10c) (¼ lb. 25c) (lb. 75c) postpaid.

**Viroflay** During the seasons of 1917 and 1918 this variety became popular as an all-round Spinach. It is desired by the grower because it is hardier than other varieties and will produce in tonnage per acre more than any of them. The canner and shipper like it because of its large smooth leaves.

The consumer prefers it because it is exceedingly tender and of mild flavor. (Pkt. 10c) (¼ lb. 25c) (lb. 75c) postpaid.

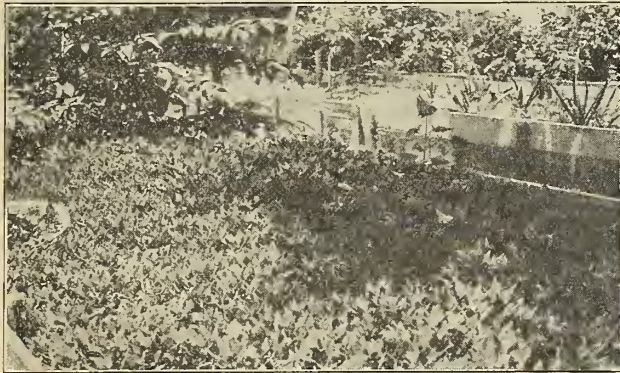
## A & M Improved Thick-Leaf Winter

This new variety is one of our valuable introductions and has proven its superiority over all other varieties for beautiful large thick-leaved bunches that bring double the returns to the grower; sells more readily to the peddler and pleases the housewife. For canners no other variety is equal to it. (Pkt. 10c) (¼ lb. 25c) (lb. 75c) postpaid.

**Long Standing** This is a good sort for market gardeners because it is slow to shoot to seed, and the quality is equal to the best winter variety. (Pkt. 10c) (oz. 20c) (¼ lb. 25c) (lb. 75c) postpaid.

## Prickly Seeded, or Winter Spinach

This variety thrives best in the coldest weather, and is the money-maker for the market gardener. Our seed is now American grown, and for several years has given entire satisfaction. The leaves are large, fleshy and very tender. (Pkt. 10c) (¼ lb. 25c) (lb. 75c) postpaid.



New Zealand Spinach Growing in a very shady spot. Try it.

Every home garden should have a bed of New Zealand Spinach in some shady place. Where it is exposed to the extreme heat of the sun it becomes tough and bitter, but when grown under trees or shaded by shrubbery it is tender and grows luxuriantly all summer.

This picture shows a bed of New Zealand Spinach growing under trees and also shaded by shrubbery. This bed was started about six years ago. It re-seeds itself abundantly. Pick off the tips frequently. The more it is picked the more it produces.

**New Zealand** A spreading vine with numerous branches. One plant will cover an area four feet in diameter. The tender tips may be cut every few days and cooked as spinach; it is just as good. One pkt. is enough for a family garden. (Pkt. 10c) (oz. 25c) (¼ lb. 75c) (lb. \$2.25) postpaid.

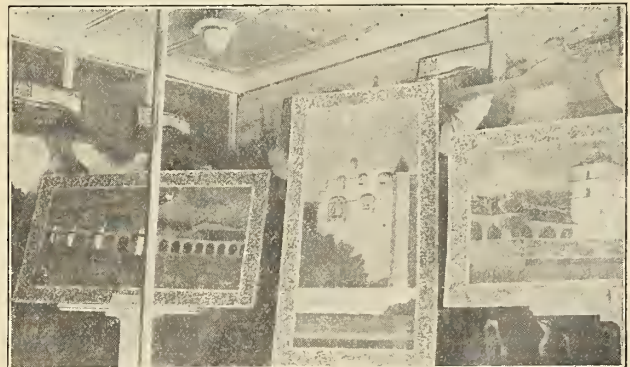
**Mountain Spinach** Is quite distinct from the common varieties, but more productive. May be cut several times which makes it branch all the more. After several cuttings it will produce enormously of seed. The quality is excellent. Try it. Seed is limited, we offer it in packets only. One packet is sufficient for a family garden. (Pkt. 10c) postpaid.

**Bloomsdale** Large green thick savory crumpled leaves, grows luxuriantly, producing twelve to fifteen tons per acre.

Bloomsdale Spinach is the standard variety throughout the East and South. It has gained popularity here since the canner and shipper have come into the local market.

(Pkt. 10c) (¼ lb. 25c) (lb. 75c) postpaid.

**A & M Summer Success** For several years we have endeavored to secure a type of Spinach that would prove profitable to grow in summer time, and after several trials this one proved the greatest success. With moist, loamy or peat land the A & M Summer Success will grow leaves 14 inches long. The leaves are very meaty and crisp. It is the best summer Spinach, but it is also the best winter growing variety. (Pkt. 10c) (¼ lb. 25c) (lb. 75c) postpaid.



These mission pictures were made with seeds of various colors and exhibited in our window during the Elks Convention. Mr. Roy Fay is the artist.



# A & M Squash

## Winter Squash

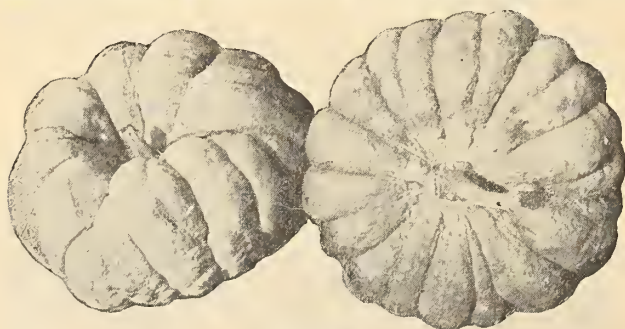
Culture—Seed should not be planted until all danger of frost is past. In open ground plant in hills ten feet apart where irrigated, and fifteen feet apart where not irrigated. In orchard plant only one row between trees. When the vine is well along do not flood the hill, but keep the irrigation furrow nearly as far from the hill as the length of the vine. Keep in mind that the roots are longer than the vines.



Green Wartyed Hubbard

**Green Wartyed Hubbard** This variety is grown more largely probably throughout the United States than any other. It is used in many ways, but mostly for pies. It is a good keeper and because of its hard warty rind, it is the best of shippers. Therefore many acres are grown in Southern California for that purpose, and many more for the bakers, the canners and family consumption. When in doubt what to plant for a fall crop, plant Hubbard Squash if your soil is suitable. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

**Fordhook Squash** This is a most desirable squash for either summer or winter use. The vines are of strong, vigorous growth and wonderfully productive. Squash oblong in form, eight or ten inches in length, slightly ridged; smooth, thin, yellowish skin; flesh very thick and of a light yellow color. If gathered young for cooking, no other squash approaches it in flavor, while if allowed to ripen on the vine they can be stored and will keep in excellent condition until late the following June. Either for baking like sweet potatoes or making pies during the winter, the squash is very fine. (Pkt. 10c) (oz. 20c) (¼ lb. 60c) (lb. \$1.75) postpaid.



Chirimen

**Chirimen** (Japanese Winter Squash) This Squash was very popular with the Japanese ever since their advent into California gardening. Because of other good varieties the American seedsmen overlooked a good thing. This distinctly Japanese Squash is very sweet and of delicious flavor, making good pie with very little sugar. The color when ripe is brown. It keeps until quite late in the spring, even longer than the Hubbard. Every home garden should have a few hills of this squash. (Pkt. 10c) (oz. 25c) (¼ lb. 75c) (lb. \$2.00) postpaid.

**Golden Hubbard** The flesh is of a deep golden yellow—a much richer color than the Hubbard—fine grained, cooks very dry, and has excellent flavor. In its keeping qualities it is fully equal to the green variety. (Pkt. 10c) (oz. 20c) (¼ lb. 65c) (lb. \$2.00) postpaid.

**Pike's Peak, or Sibley** An excellent winter squash. Fine grained and superior in flavor and keeping qualities to the Hubbard Squash, but not so well known. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.



Banana

**Banana** This squash grows from one to two feet in length. The skin varies from a bright yellow to a dark olive green. Flesh firm and solid, of beautiful orange-yellow and excellent quality. It keeps from one season until another. When quite young it is excellent to cook as a marrow. (Pkt. 10c) (oz. 25c) (¼ lb. 85c) (lb. \$2.50) postpaid.

When we introduced this Squash about ten years ago we predicted it would soon supersede the Hubbard because of its smooth rind, its resistance to the heat of the sun, and because of its excellent flavor. On the local market it brings a better price and is more abundant than the Hubbard.



120 acres of Banana Squash growing in a newly planted vineyard with very little additional expense. If you are starting a vineyard or an orchard, for one or two years you can more than make expenses growing Banana Squash.

**Boston Marrow** Flesh, bright orange or rich salmon color; for sweetness and excellence is unsurpassed. (Pkt. 10c) (oz. 20c) (¼ lb. 45c) (lb. \$1.25) postpaid.

## English Cream Marrow

It is as sweet as a sweet potato, and has none of that pumpkin flavor. It is good any way it comes on the table, and is better than Hubbard Squash for pie. It is 6 to 8 inches long and half as thick. Decidedly firm. It will keep from one season to another. (Pkt. 10c) (oz. 20c) (¼ lb. 60c) (lb. \$1.75) postpaid.

## SUMMER SQUASH

**Zucchini** The favorite Spanish Squash. Like the Italian Squash it should be eaten when quite young, four to six inches long. It is a delicious summer variety; do not hesitate to plant it. It is very prolific, a few hills will suffice to keep the family well supplied the entire summer. (Pkt. 10c) (oz. 20c) (¼ lb. 65c) (lb. \$2.00) postpaid.

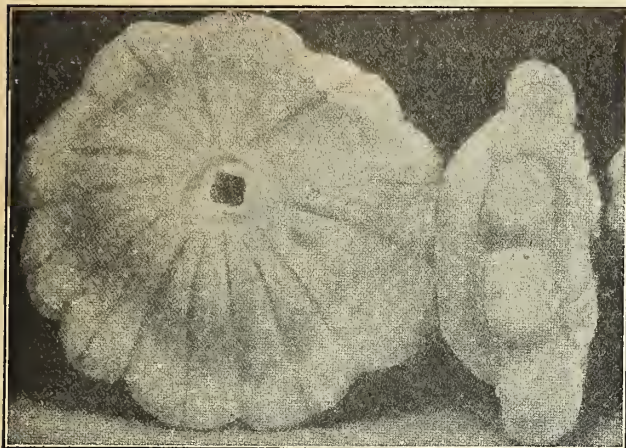


**Cocozelle** An excellent squash for many purposes. Equal to the White Bush Scallop for the table when taken quite young. It is enormously prolific. When gathered closely and fed to stock, the vines will keep bearing continuously all summer, and far into the fall. It survives drouth to a wonderful degree. (Pkt. 10c) (oz. 25c) (¼ lb. 85c) (lb. \$2.50) postpaid.

**Italian Squash** Is a bush variety, and should be planted 5 feet apart. It should be used when quite young. When served it has a rich creamy flavor not equalled by any other squash. Some gardeners have made considerable money making a specialty of it. For the family garden we would recommend its use instead of the small White Bush Scallop, because of its excellent flavor. Since our introduction of this squash a few years ago, it has now become one of the staple products on the market. It is listed with the daily market reports, and is grown largely by the gardeners in frostless sections for the early trade. (Pkt. 10c) (oz. 20c) (¼ lb. 65c) (lb. \$2.00) postpaid.



## SQUASH—(Continued)

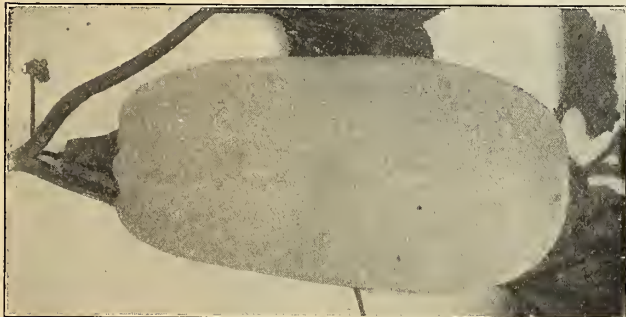


Extra Early Prolific

### A & M WHITE BUSH SCALLOP

**A & M White Bush Scallop** The well known summer squash that has been the standard for more than fifty years, and always in demand because it is delicious on the table whether stewed or fried as Egg plant. (Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.25) postpaid.

**Golden Summer Crookneck** The popular well known Crookneck (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.



Long White Marrow

**Long White Marrow** This is exceedingly delicious as well as the most prolific of all English Marrows. Steamed when quite young or fried as egg plant it is equal to egg plant itself. The squash is about 12 inches long when mature, and has a light creamy color. It grows luxuriantly and bears abundantly all summer under very adverse conditions. It will grow, when continuously harvested, more stock food than pumpkins. (Pkt. 10c) (oz. 20c) (¼ lb. 60c) (lb. \$1.75) postpaid.

## Here Are Some Causes for Crop Failures

**SOIL**—Not chemically or physically adapted to the requirements of the crop; not properly prepared; too much or too little moisture.

**CLIMATE**—Variety planted out of its season; unseasonable weather; extremes of heat and cold; excessive rain or drouth.

**CULTURE**—Variety not adapted to conditions; improper planting; improper cultivation; improper irrigation; improper fertilization; inattention to insects and diseases.

**SEED**—Unwise selection of variety; inattention to purity and germination; indifferent about pedigree and source.

It is up to you to avoid or correct as far as is possible.

## Read

"Last year we used your seeds and never lost a single seed, and it was our first attempt at gardening. Your seeds are A-1 and cannot be beat. Don't forget to send me the 1922 catalog, as we can't get along without it."

"MRS. CARL SCHAFFER."

## A & M TOMATOES

**Culture.**—Tomatoes do best on light warm, not over-rich soil, and success depends upon securing a rapid, vigorous and unchecked growth during the early part of the season. Sow in hot-beds from 6 to 8 weeks before they can be set out of doors, which is when danger from frost is past.

Transplant three to six feet apart in rows four to six feet apart, according to variety—three feet for those varieties of upright growth, as the Dwarf Champion, and six feet is not too far apart for vining varieties which soon cover the ground solidly. The soil should be plowed and pulverized to a depth of ten or twelve inches, the deeper the better, in order that the roots may keep in the cool earth, for as soon as the roots are heated by the hot, dry soil near the surface, the plant quickly sickens and dies, and the grower can see no cause for it.

In the early fall when the nights have become cool and heavy dews prevail, it would be well to spray with Bordeaux Mixture, to prevent blight. It may be necessary also to spray after each rain throughout the winter.

To prevent root-blight, pour a cupful of Bordeaux around the stem at the surface of the ground.

The time of planting and variety depend upon your local market, soil and climatic conditions, and the purpose for which they are grown.

On sandy loam soil near the foothills, where it is nearly frostless, we recommend planting seed of the A & M First Early and John Baer in Hot beds during December and January for winter and early spring tomatoes. Tomatoes that mature the latter part of April are considered early for Southern California.

Plant seed of the Stone and Greater Baltimore varieties during April, May, June and July, for the summer and fall crops, for canners and shippers.

For the home garden plant the HOME TOMATO and the Ponderosa.

## Tomato-Leaf Blight Losses May be Avoided By Spraying with Fungi-Bordo

"I wouldn't grow tomatoes in a blight-infested region without spraying," says S. L. Dodd, jr., extension pathologist for the United States Department of Agriculture and West Virginia Agricultural Experiment Station, who sprayed tomatoes for the control of blight in six counties of West Virginia in 1918. Thorough spraying was the keynote of his success. He made six, and in some fields seven applications, using spray mixture at the rate of 150 gallons an acre for mature plants. Spraying improved color and solidity of fruit, reduced rot and sunscald, and increased the yield of ripe fruit 39 per cent, and of both green and ripe fruit 55 per cent.

### Small Sprayer Effective

A small knapsack compressed-air sprayer was used in this work. Such sprayers are light, easy to operate, and produce a fine misty spray. Several different kinds, varying somewhat in shape and construction, but built on the compressed air principle, are now offered for sale. See our Utility Sprayer.

The spray formula used was 5-5-3-50 Bordeaux soap mixture, composed of 5 pounds copper sulphate, 5 pounds stone lime, 3 pounds resin fish oil soap, and 50 gallons of water.

To reduce the work of preparing spray mixtures, the following stock solutions were made: Five pounds of copper sulphate (blue stone) were dissolved by suspending it in a wooden vessel containing 5 gallons of water. Five pounds of stone lime (quicklime) were slacked in another vessel by slowly adding water at first and later increasing the volume to 5 gallons. Three pounds of resin fish oil soap were diluted in a third vessel by stirring it in hot water until thin and increasing the volume to 5 gallons by adding water of ordinary temperature.

These stock solutions keep indefinitely if not mixed or weakened by rain, but the lime should be covered to prevent drying out and air slaking. The level of the liquid when freshly made and after each spray period should be marked on each vessel, and water added when needed to restore loss by evaporation.

Ten gallons of spray mixture are prepared by taking 1 gallon of each freshly prepared ingredient. Mix and dilute with water to ten gallons.

**Picking and Hauling the Fruit.**—Pick carefully and watch your pickers.

Do not disturb the vines any more than can be helped. Impress that upon your pickers.

We have given much space to the subject of Tomatoes for the reason that the growing of Tomatoes in Southern California ranks with the big things of the great Southwest.

Few people know that thousands of acres of Tomatoes are transplanted each month of the year from January until October.

The early planting is done in sheltered places along the foothills and along the coast, also in Coachella and Imperial Valleys. This crop matures during April and May and is shipped to all parts of the United States.

The Mid-Summer crop is set out at any time from April 1st until August 15th. This comprises the large acreage planted throughout the southwest for local consumption and for the numerous canneries. We have no figures as to acreage planted for this purpose, but it is enormous.

September and October are the months for planting Tomatoes for mid-winter consumption. Usually the local market absorbs the entire crop.

Our advice is that it is profitable to grow Mid-Summer Tomatoes for the canneries at a satisfactory contract price. It is too much of a gamble to grow a large acreage for the open market.

It is profitable to plant as late as August 1st in foothill sections.

Your crop is then likely to be in its prime when the colder locations will have been destroyed by frost.

This too is about the time when the demand comes from the East, and when the fields had been destroyed by frost.



# A & M First Early



In the \$1,000,000 Class. See Back Cover.

**A & M First Early** for the early market. We introduced the A & M First Early in 1909, and from that time to the present it has superseded all other early varieties throughout Southern California, and is continually growing in popularity here and elsewhere. For a first early money-maker, it has no equal in the tomato line. We cannot give it too much praise. The growers are not looking for an earlier one. It is good enough. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.75) (lb. \$5.00) postpaid.

J. D. ALTHOUSE: The A & M First Early Tomato is sure a wonder. Last year each plant averaged an income of 75 cents.

J. A. NEWFIELD: I set out 900 plants of tomatoes, 200 A & M First Early and 700 Bonnie Best. I began picking June 1st and during the season I had sold at wholesale \$1000 worth of tomatoes. This is better than \$1.00 per plant.

**Earliana** The plants are quite hardy, with rather slender branches and moderate growth, well set with fruits, nearly all of which ripen very early in the season. The tomatoes are bright red and close together in clusters of five to eight; all of medium size, averaging 2½ inches in diameter. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

**Bonnie Best** Extra early, bright red, uniformly smooth, medium sized, solid and very prolific. It is very popular among growers of early tomatoes throughout the United States and wherever it has been tried. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

**King of the Earlies** This variety is very popular in some sections. It does very well in Coachella and Imperial Valleys. For these places we recommend it. (Pkt. 10c) (oz. 75c) (¼ lb. \$2.50) (lb. \$7.50) postpaid.

The varieties listed on this page are all standard early shippers. The A & M First Early is the most popular on the coast, and in Texas. The East Coast prefers a pink tomato, but they are too soft to ship any great distance.

**John Baer** has exceeded every claim we made for it. It enabled the canners to begin two weeks earlier. The gardener brought to the market finer early tomatoes than he ever had before. Every tomato a smooth one. It is very prolific, every cluster bears four or five uniformly sized smooth tomatoes red from blossom to stem. We recommend it for heavy soils and for planting in young orchards. It has naturally a scant foliage suitable for early maturing, but will yield ton for ton with the Stone. For early market and early canning plant the John Baer. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.75) (lb. \$5.00) postpaid.

"Last year we planted one acre of your John Baer Tomatoes on heavy adobe soil. We had tomatoes before anyone else in the valley, tomatoes after all others were gone, stored fifty boxes in the cellar, and sold tomatoes Christmas week. The acre brought \$856.00. It is properly named, it's a bear. Respectfully,  
"CHARLES C. LEE, New Mexico."

**Chalk's Early Jewel** Excellent early tomato for home or nearby market; very prolific, red, smooth and desirable size. Its mild flavor makes it desirable as a salad. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

**June Pink** The most popular extra early tomato grown in the South and East. It is very prolific and may be compared with the A & M First Early except its pink color. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (½ lb. \$2.25) (lb. \$4.00)

**Dwarf Champion** (Tree Tomato)—Has long been a favorite midsummer tomato. Pink in color, smooth and solid, making it a good shipping variety. This has proven very satisfactory in Arizona. Its dense foliage protects the fruit from sunburning. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.65) (lb. \$5.00) postpaid.



# The Early Shipper



The Early Shipper

**The Early Shipper** We have grown this tomato aside of the First Early. We are not willing to state that it is in any respect a better tomato, but it has a deeper red color and possibly more uniform shape. On account of its color and shape it may be more desirable for the early shipper, hence its name.

This variety thrives better in a heavy soil, therefore would be just the thing for adobe. It is very prolific, medium to large size, and red all over. It is very profitable to the early shipper. It is equal to the Stone for canning and has a better flavor. If you are growing for the early market do not hesitate to plant it. One grower reports having received more than \$600 from one acre. Another grower says he hauled 52 tons to the cannery from four acres. Still another grower claims he had the earliest tomatoes in his neighborhood. Another reports that they had tomatoes at Christmas time from August transplanting. (Pkt. 25c) (oz. \$1.50) (¼ lb. \$5.00) (lb. \$15.00).

**Dwarf Stone** (Tree Tomato)—Large, red, smooth and solid. The stalk is upright with dense foliage protecting the fruit from the heat of the sun. It is a desirable tomato to grow in the interior valleys. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

**San Jose Canner** This variety is a favorite with canners for the sole reason of its enormous yield of large tomatoes regardless of shape. We recommend it where tonnage is desired above all else. (Pkt. 10c) (oz. 75c) (¼ lb. \$2.50) (lb. \$7.50) postpaid.

## THE MOST POPULAR TOMATO FOR MARKET NEAR AND FAR—THE TOMATO FOR SHIPPING AND CANNING

**The New Improved Stone** This is the most popular tomato in Southern California. Several thousand acres are planted to this variety exclusively for shipping to Eastern points after other tomatoes have been destroyed by frost. For this purpose the seed is planted about June 15th, and the tomato brought to full size about October 1st, after which it gradually ripens as wanted for shipping. The tomato is of good size, bright red, solid and smooth, enormously productive.

The canners prefer it because of its uniformly desirable size and solidity for canning. The grower prefers it because of the vigorous growth and large production extending throughout the season far into the winter months. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

**Greater Baltimore** We offer this variety because some canners insist upon having it. In appearance it is similar to the Stone, enormously productive. We give it our full endorsement to any who would grow for the canner. (Pkt. 10c) (oz. 60c) (¼ lb. \$2.00) (lb. \$6.00) postpaid.

"Your new catalog came to my father and has been a source of great pleasure and will be of profit this summer I am sure.

"MRS. G. F. McCARTNEY, Calif."



## TOMATOES—(Continued)

**The Boulder** We have named this the Boulder because it is solid and smooth as the Stone Tomato, but so much larger. It is very prolific. See the picture of a cluster taken from our field. It is too large for the shipper, but every housewife wants a large smooth mild tomato for salad. We recommend it to canners. (Pkt. 10c) (oz. 65c) (¼ lb. \$2.20) (lb. \$6.50) postpaid.



Boulder

The Tomato for salad. These six Tomatoes were growing in one cluster and each one measured more than five inches in diameter and all together weighed 5¼ lbs. Only one was fully grown.

**Ponderosa** A very large, purple tomato with few seeds and of excellent flavor. Our strain is round and smooth—not the usual oblong wrinkled kind. It is a favorite for the home garden, for which purpose we have on hand from March 1st until June extra fine, large, strong transplanted plants. (Pkt. 10c) (oz. 65c) (¼ lb. \$2.20) (lb. \$6.50) postpaid.

**Dwarf Ponderosa** A large tomato on a small vine; just the thing for a small garden. The tomato is delicious. (Pkt. 10c) (oz. 75c) postpaid.

**Golden Ponderosa** A very large yellow tomato having a delicious flavor. It is ideal for salads and with a little finely sliced lemon makes excellent preserves. It yields enormously. We recommend it for the home garden. (Pkt. 10c) (oz. 75c) (¼ lb. \$2.50) (lb. \$7.50) postpaid.

**The Home** This tomato when trellised to shade a window or to cover an unsightly corner will grow 12 feet high and as wide, bearing early and late pink tomatoes of good average size and unsurpassed flavor. It is an ideal home tomato and is also ideal to grow in the south for winter shipping, where a pink tomato is preferred. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.20) postpaid.

**Hummer** We consider this one of the finest tomatoes for the shipper. It is early, solid, smooth, good size, bright red, and enormously prolific with abundant foliage to protect the fruit from scalding. As a shipper it cannot be excelled, even by the popular Stone tomato. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.75) (lb. \$5.00) postpaid.

**Livingston Globe** An excellent pink tomato for salads, smooth and solid. We recommend it for the home garden. (Pkt. 10c) (oz. 45c) (¼ lb. \$1.50) (lb. \$4.50) postpaid.

**Genuine Italian Red Pear Shaped** Used largely for making puree, preserving and spicing. (Pkt. 10c) (oz. 75c) postpaid.

**Yellow Egg** Excellent for pickling and preserving. Small yellow egg-shaped tomato of mild flavor. (Pkt. 10c) (oz. 75c) postpaid.

**Yellow Pear** For pickling and preserving. (Pkt. 10c) (oz. 75c) postpaid.

**Yellow Plum** For pickling and preserving. (Pkt. 10c) (oz. 75c) postpaid.

**Ground Cherry** Grows like a tomato; fruits like a tomato, but the small fruit is enveloped with a husk. It is good for preserves. (Pkt. 10c) (oz. 75c) postpaid.

## A & M Turnips

**Culture**—(See Page 9). Turnips may be sown broadcast on damp sandy soil or in drills as beets and carrots. Drill in double rows on ridges not too thick in the row. The Purple Top Globe variety is now leading in popularity because of its mild flavor and its adaptability to our summer climate.

**Early Purple Top Strap-Leaf** A very popular variety in this section for either family or market use; large size, white, purple above ground; flesh fine grained. (Pkt. 10c) (oz. 20c) (¼ lb. 35c) (lb. \$1.00) postpaid.

**Golden Ball** A rapid grower of excellent flavor; bright yellow color; good keeper and a superior table variety or for stock. (Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.25) postpaid.

**Early White Flat Dutch** An early white-fleshed strap-leaved variety; for quick growth, mild flavor and excellent quality. (Pkt. 10c) (oz. 20c) (¼ lb. 35c) (lb. \$1.00) postpaid.

**Purple Top Globe** Solid, very sweet, slow to get pithy. The very best variety for the summer season. Indeed, the best for any season, but slower to mature than the Strap-Leaf. (Pkt. 10c) (oz. 20c) (¼ lb. 35c) (lb. \$1.00) postpaid.



Purple Top Strapleaf

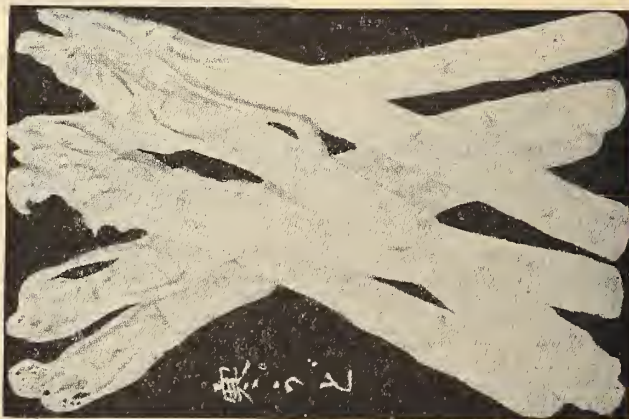


White Flat Dutch

**Snowball** Next to the Purple-Top Globe in popularity, but preferred by many because of its beauty and excellent flavor. It is slow to get pithy in the summer, but always crisp during the winter. (Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.25) postpaid.

## Improved Purple-Top Rutabaga

The best of the Swede Turnips. Very hardy and productive; flesh yellow, is very solid, sweet and well flavored. (Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.25) postpaid.



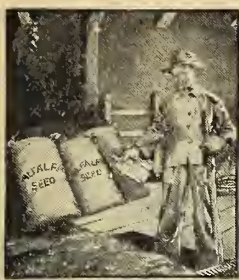
Udo

**UDO** (Japanese Salad Plant)—Three years ago the Department of Agriculture, Washington, D. C., sent us some seed of Udo which we planted in our demonstration garden. Each year it grew taller; the last season it grew 12 feet tall and matured a quantity of seed. The culture is the same as for Asparagus but, like Whitloof Chicory or Celery, it should be blanched by throwing the earth over the growing plants. It may be cooked and served like Asparagus or sliced and served with dressing as a salad. (Pkt. 25c) postpaid.

See our list of Bulbs.


See our Strawberry Plants.

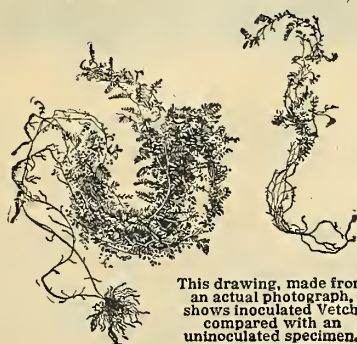




Inoculate Your  
Alfalfa, Clovers, Cow Peas, Soy Beans, Vetches  
and  
Other Legume Crops  
WITH  
**Mulford Cultures**  
FOR LEGUMES

Small Cost      Large Returns      Easy to Use      No Labor Expense





This drawing, made from an actual photograph, shows inoculated Vetch compared with an uninoculated specimen.

## MULFORD CULTURES FOR LEGUMES

Inoculation is no longer an experiment in California. Progressive farmers of the Golden West have demonstrated to their entire satisfaction that legumes offer the best known means of maintaining soil fertility, and rejuvenating over-cropped and worn-out fields, and they have also demonstrated that inoculation of legumes with nitrogen-fixing bacteria induces prompt "catch" and increases the yield of field and orchard crops. Realizing the importance of this branch of agriculture and wishing to have first hand information for our customers, we have made a careful study of this subject during the past few years, and have gathered worth-while information that may be had for the asking. Also we will send free upon request a descriptive folder on "Mulford Cultures" which we can conscientiously recommend for inoculating your seeds. Mulford Cultures contain pure, tested strains of active, vigorous nitrogen-fixing bacteria which are scientifically prepared and tested by experts in the biological laboratories of H. K. Mulford

Co. This company enjoys a wonderful reputation for thoroughness and care in preparing their cultures, which we have found to be worthy of the usual A & M recommendation.

Mulford Cultures are low priced for the reason that we do not have the added expense of making house-to-house calls to sell it. It sells itself because California farmers know that it is an honest culture at an honest price.

Always specify on your order what crop you want to inoculate as there is a different strain of bacteria for each legume. For large acreage, order at least ten days before you require the culture.

Alfalfa  
Sweet Clover  
Mellilotus Indica  
Burr Clover  
Cow Peas  
Field Peas  
Peanuts  
Vetch  
Sweet Peas  
Garden Peas  
Garden Beans  
Lima Beans

Mulford Cultures are supplied for the varieties of legumes listed, at the following prices:

5-acre size .....\$5.00  
("Dollar per Acre")  
1-acre size .....\$1.50  
¼-acre size .....75c  
Small size (supplied only in 4 varieties for Garden Peas, Garden Beans, Lima Beans and Sweet Peas.....35c



## Soil Builders

### How Science Benefits Agriculture

Your Soil Fertility Will be Improved by Proper Crop Rotation

"The sowing of nitrogen gathering plants for green manuring has become so popular because of the excellent results obtained and because of its cheapness as a fertilizer that its use is almost universal; not only for orchards, but for fields particularly where melons and potatoes are to be planted.

"If your land is sloping, you need a cover crop to prevent eroding during the rainy season.

"If your land is lumpy and dry, lacking life, it needs humus and nitrogen.

"If your soil is sandy and fails to retain moisture, it lacks humus and nitrogen.

"If your soil is of clay and bakes and crusts readily, it needs humus and nitrogen."

The best nitrogen gathering crops for fall planting are Winter Vetch, Canadian Peas, Mellilotus and Broad Windsor Beans.

For spring planting there is nothing better than Whip-poor-will Cowpeas. The best time to plow under is when the plant has about finished blooming.

The seed should be inoculated with Mulford Culture for best results from legumes.

READ THIS

### Common Sense

### FERTILITY WITHOUT MANURE

By R. W. Davis, Illinois.

Mr. Ruffner's talk on "The Truth About Fertilizers," set me thinking of an experience I had that may interest some one who must get fertility without manure, as I had to do.

On a small farm I bought three years ago was a field of about half an acre that had been badly neglected for a number of years.

Last year I plowed it early and let it lie until the end of May. Then I disced it, sowed on acid phosphate and planted Navy Beans. I failed to inoculate and when the beans were growing, not a nodule could be found. The crop was only fair. As soon as the beans were off I sowed Vetch the first week in

September. The Vetch made a fair growth, but needed inoculation.

This year the land was plowed early and planted in different crops. A first crop of Radish did very well. Between the Radish rows, Tomatoes were set on the south part of the field, while farther north Wax Beans and Peas were drilled. The Beans and Peas were inoculated. Corn and Peppers were planted when the Peas were in bloom. The Peas made a good crop and the Beans made a yield good for any year. Corn and Limas are in good condition and the Peppers are setting fruit very nicely.

Here is a field that has had no manure in twenty years, some of my neighbors tell me. It has been neglected and was considered worthless; yet in three years it has been brought up to a good state of farm fertility, simply by the use of cover crops and phosphates with thorough tillage. The cover crops were really non-leguminous, as the roots of the legumes showed no nodules, till this year when I inoculated the Beans and Peas. It is the earliest field on the place.

The Truth about Fertility? I don't know it, but I have come to believe that we can get along without manure, if we use cover crops and phosphate. I believe that we shall some day find that fertility is largely a matter of bacteriology, and of certain obscure chemical changes that we may help or hinder by our methods of soil management. When we have learned what these forces are, we shall be in a position to understand fertility.

### Commercial Fertilizers: Expensive, Uncertain

Which will you do—Buy manure or raise cover crops? Here is the comparison:

	Nitrogen	Acid	Potash
A ton of vetch (dry) contains.....	55.6	16.2	53.6
A ton of clover (dry) contains.....	45.8	9.4	31.6
A ton of manure (dry) contains.....	9.8	5.2	9.6

Bulletin No. 190, U. S. Dept. of Agriculture, says:

"A green manure crop should be a legume wherever possible, in order to obtain the addition of nitrogen to the soil. It is also necessary that a good growth be made, in order that we have a large quantity of organic matter to turn under and incorporate with the soil. Along with good growth should be a heavy development of nodules on the roots, as this is believed to indicate great ability to fix atmospheric nitrogen."



# Soil Renovators for Winter Crop

## Inoculate with Mulford Culture



Melilotus alba

### Melilotus alba

For information concerning Melilotus alba (Sweet Clover) write United States Department of Agriculture, Washington, D. C., for Farmers' Bulletins Nos. 797 and 820.

Melilotus alba  
See Forage Plants

### Culture

I have come to the conclusion that, except on sandy soils, it is better to broadcast the seed than to drill it. This is especially true where there is alkali. Sweet-clover seed should be very close to the surface. A light harrowing or dragging with a light brush drag, will mix the seed with the soil sufficiently for germination. It is better, too, to sow the seed in the fall and let the rains bring it up. It gets a better start that way.

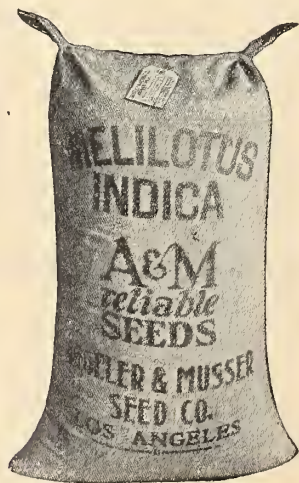
Melilotus alba is being recognized more and more each season as a valuable soil renovator. Because of its large and extensive root system penetrating deep into hard subsoil, there decaying, permits moisture to enter and break up the hardpan that plowing may become deeper and more thorough. These roots have gathered nitrogen and add much humus, all of which is essential to building up new or run-down soil.

Melilotus has other uses in soil renovating; it will grow in alkali soil and reclaim it. It will eradicate Bermuda and Johnson grasses; therefore, if you have any land that will be benefited by Melilotus alba by all means plant it.

Mr. F. H. Bixby, president of the California Cattlemen's Assn. stated that beet land on which the yield had fallen to six tons per acre was raised to yield twenty tons per acre by plowing under a crop of Melilotus alba. By all means use it. (Per lb. 35c) (10 lbs. \$3.00) postpaid. Write for quantity price.

### Lime and Sulphur for Clover

Both Lime and Sulphur will be found on pages devoted to insecticides and fertilizers. We have also classed the two together as soil builders because Science has only recently discovered that Sulphur is a fertilizer, and it also destroys the microscopic germs of both Fungi and insects. Also that Sulphur and Lime together generate a gas that is highly beneficial to Clovers. We recommend that the two be applied to the soil at the same time.



A tag on every bag says: "Approximate Purity 99.35%; approximate germination 92

### Melilotus indica

For information concerning Melilotus indica, write University of California, College of Agriculture, Berkeley, Cal., for Circular 136.

### Melilotus indica

Was introduced by us in 1909, has now become recognized as the legume best adapted for green manuring in the orchards of California, because it may be planted late in the fall after all crops have been harvested, will grow all winter with only the season's rainfall.

It prevents erosion during the rainy season, is easily plowed under, is richer as a fertilizer and if allowed to stand until July will prevent much of the June drop.

Melilotus indica is the best legume with which to build up your soil during the rainy season for the summer crop to follow, particularly potatoes and melons. Write for price.

"One orange grower showed one part of his grove where he turned under a heavy green crop of melilotus indica last year, and where a lighter cover crop was grown this year. He had been able to hold the water and keep a much steadier moisture condition in this soil than where the "green manure" was not used last year. Also, the plant food and humus were more abundant and the supply more constant than in the other sections of his grove.

"He did not use any commercial fertilizer this season at all where the 'green manure' was used. In the other sections where the drop of fruit is so bad, he used commercial fertilizer, but did not have the humus from a green manure crop to help hold this fertilizer." (Per lb. 25c) (10 lbs. \$2.00) postpaid. Write for quantity price.

### Vetch

For many years was considered the best legume for planting in orchards during the rainy season. It is only because Melilotus indica is a little harder that vetch is now second place for that purpose; but science has discovered a new use for vetch. It is true that oats have long been planted together with vetch for the purpose of supporting the vetch that it may be easy to harvest. Now the new discovery is that vetch may be planted with oats, wheat, rye and barley in order that the grain will be fertilized by the nitrogen gathered at the roots of the vetch, thus greatly increasing your crop of grain, or if grown for hay it doubles the yield. Twenty to thirty pounds of grain sown with twenty pounds of vetch per acre, will yield more grain than sixty pounds of grain per acre if sown by itself. (Per lb 25c) (10 lbs. \$2.00) postpaid. Write for quantity price.

### Burr Clover

The native Clover, and one of the best nitrogen-gathering crops and very satisfactory for orchards. There is an increasing demand for Burr Clover, and the seed is very scarce and hard to obtain. It is the very best cover crop for poor or dry land, as it needs but little moisture. If your grazing land lacks native grasses, plant Burr Clover; it re-seeds itself, starting to grow with the first rain, and continues growing far into the dry season. (Per lb. 50c) (10 lbs. \$4.50) postpaid. Write for quantity price.

### Broad Windsor Bean

Sometimes called Horse Beans, grows upright on a single stem bearing a profusion of large well-filled pods. The roots are enormously productive of nitrogen. It will withstand 28° temperature; therefore, may be planted as late as September for best results as a winter cover crop. (Per lb. 25c) (10 lbs. \$2.00) postpaid. Write for quantity price.

### Canadian Field Pea

When it is too late to plant Vetch or Melilotus plant Canadian Peas.

They may be planted in January and yet be plowed under in time for planting a summer crop. If your summer crop, like melons and potatoes are not harvested until November plant Canadian Peas.

Neither is the Canadian Pea inferior to other cover crops when planted at the right time. The right time is from September until February and on any kind of soil.

Notice—Do not plant just before a rain nor irrigate before they are well above the ground and established. If the soil is too wet after planting the seed will rot. (Per lb. 25c) (10 lbs. \$2.00) postpaid. Write for quantity price.



## TWO NEW PROMISING SOIL BUILDERS FOR WINTER CROP

### Purple Vetch and Hubam Clover

The seed of either is not yet plentiful enough for general planting, but sufficient for a trial.

The great merit of both is the short period of growth.

**Hubam Clover** (Annual Sweet Clover) An annual white sweet clover so named by its discoverer, Prof. H. D. Hughes, combining his name with Alabama, the state in which it first appeared.

We are sure this rapid growing clover will supersede other clovers as soon as the seed is plentiful enough, because of its earliness that it may be plowed under at a convenient time for citrus growers. Planted during the early fall it is ready to be plowed under during mid-winter, or planted during the early spring it may stand until July, past the period of the June drop, and may do much to prevent the annual serious loss. Try it in order to get acquainted with it.

What is Hubam Clover? It is an annual white sweet clover very similar to *Melilotus alba*.



Four-month Growth of Hubam Clover on Our Demonstration Plot

What is it good for? Chiefly for green manuring or a cover crop in citrus groves, or for hay, or bee pasture. It makes the finest kind of pasture for stock.

How long does it take to make a crop? From four to five months will produce seed.

Where will it grow? It is not particular as to soil, but it does require lime and should be inoculated.

How should it be planted? Broadcast or sown four pounds per acre in rows 18 inches apart.

**Hubam for Grain Fields** Broadcast during January or February, four pounds per acre in your wheat or oats, and after the grain is cut the Hubam will produce two or three feet of growth without irrigation to be pastured or plowed under, or it may be cut for hay. If irrigated it may be pastured until fall.

Bear in mind that Hubam is the crop to sow in your citrus orchard during March or April to prevent the June drop. If you have bees sow Hubam for bee pasture. (Price \$2.00 per lb.) (10 lbs. \$19.00) postpaid.

**Purple Vetch** Write the Dept. of Agriculture, Washington, D. C., and ask for Farmers Bulletin No. 967.

Purple Vetch gives promise of being a valuable addition to the list of nitrogen crops that can be grown where the temperature does not fall below fifteen degrees. Because of its rapid growth in the fall it is adapted to green manuring in citrus groves where it will be appreciated as of special value. It is also valuable for pasture, and if grown with oats or barley it will make excellent hay.

The seed is yet quite scarce, but we have a limited quantity to offer. (Per lb. 40c) (10 lbs. \$3.50) postpaid. Write for quantity price.

## Soil Renovators for Summer Growing

By Dr. P. B. Kennedy

In Charge of Forage Crop Investigations  
University of California

Many farmers and stockmen are thinking about summer forage and wondering what would be a good crop to plant. To all such, we recommend the cow pea, a known legume with an established reputation for good behavior. Some of this plant's performances may be briefly summarized as follows:

(1) It will grow on practically all kinds of soils, whether sandy or clay, poor or fertile.

(2) It is of the easiest culture.

(3) It has a big, strong, deep-root system, well supplied with large nitrogen gathering nodules.

(4) It revels in summer heat, and is extremely drought-resistant.

(5) It grows very rapidly, shading the soil from excessive heat, and leaving no room for noxious weeds.

(6) It greatly benefits the succeeding crop by accumulation of nitrogen in the soil.

(7) It leaves the soil in fine physical condition for the fall planting of grain or other winter crop.

(8) It produces an abundance of highly nutritious pods and leaves in a few months.

(9) It may be made into hay or ensilage, or pastured, the seeds may be used for stock feed or human consumption.



Whip-poor-will Cow Peas for Green Manuring in the Foothills, to be Followed by Garden Peas, then Potatoes

R. S. Thompson of Highland, and Farm Advisor Robert W. Hodgson were called upon to discuss the subject of summer cover crops, both agreeing that the best general summer cover crop for green-manure purposes is the whip-poor-will cow pea.

We have tried out many varieties of the cow peas which give such wonderful results in the south. The result of our trial is that we will discontinue offering those which showed decided antagonism to our climate. We are sure the Whip-Poor-will is the best; it is entirely satisfactory for all purposes. Why, then, should we offer other varieties. Whip-poor-will is the best and has proven so since we first offered it in 1898.

Plant any time from April 1st until September 1st. (lb. 25c) (10 lbs. \$2.00) postpaid. Write for quantity price.

### Peanuts

A valuable soil renovator to sow in young orchards as a pay crop until the orchard comes into bearing. See page 38.

### Soy Beans

These are wonderfully valuable as a soil crop because of their nitrogen gathering propensities. For green manuring they should be plowed under when the pods are set. (lb. 25c) (10 lbs. \$2.00) postpaid. Write for quantity price.



A profitable Crop of Blackeyes in a Young Orchard.



# A & M Alfalfa

INOCULATE WITH MULFORD CULTURE



Part of 1000 acres of Alfalfa situated within the City Limits of Los Angeles. The property of the Los Angeles Creamery.

## ALFALFA

**Alfalfa** Lucerne. This may well be called the King of Forage Plants; all stock relish it; may be grown in nearly every state in the Union and it is essential to the best interests of every rancher, small or large. To the "Little Lander" with a few chickens and rabbits, as well as to the large rancher with hundreds of cattle, horses and hogs. It may be cut and fed green; judicious grazing does not injure it. If mixed with sorghum in the silo, it improves the ensilage, and as dry hay it is unexcelled. It is leguminous and, therefore, a soil renovator.

Cultivation is very simple, the essentials being well drained soil, good grading, thorough subsoiling, thorough watering and judicious harrowing; also proper fertilizing, especially on new ground.

## Sulphur for Alfalfa

There have been several experiments carried on throughout Tehama County with sulphur for fertilizer on alfalfa.

We are pleased to state that results have far surpassed the expectations of even the most optimistic, in each case the sulphur was applied at the rate of about one hundred pounds per acre, and the same care given to both the plots that were sulphured and those that were not.

From the very first a very appreciable difference could be seen and when the first cutting was completed and the hay weighed, the sulphured plots showed a gain of approximately 35%. Use Toro Brand. \$5.50 per sack 110 lbs. f.o.b. Los Angeles.

## Nurse Crop with Alfalfa

As a rule on sandy lands that are subject to blowing, or on heavy lands which have a tendency to bake, a nurse crop may be of benefit as it reduces blowing or baking. Oats and barley make the best nurse crops because they shade the ground the least. They should be seeded at the rate of from 30 to 40 pounds to the acre. These should be cut for hay so as not to shade the alfalfa plants too long. Unless the soil is subject to blowing or baking it is not advisable as a general rule to use a nurse crop. Under dry land conditions a nurse crop should never be used, as the moisture supply is too limited to sustain two crops at one time.

JAMES MARSHALL, Colorado Agricultural College.

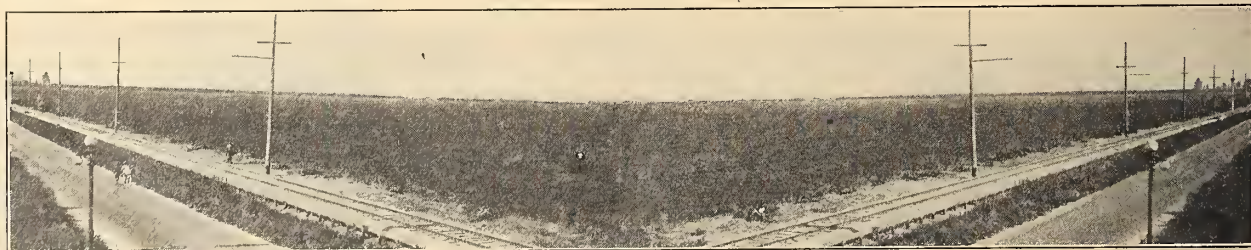
## Buy Only the Best Seeds

Only by buying the best seeds can we obtain the best results—everybody knows that. Many of us found out last year, after buying a lot of imported alfalfa seed, that paying a few cents less per pound did not make up for only about 50 per cent germinating and a heavy percentage of weed seed. We must confine our purchases of commercial seeds to California seedsmen of good repute, upon whose word we can rely. These men make germinating tests and spend no end of money in cleaning and recleaning their seed. It does not pay to raise a poor crop on high-priced land with high-priced labor.

Few growers stop to think that seed is the least item of expense in the production of alfalfa. The farmer must always bear in mind that he is putting in a permanent crop which will continue to produce for years.

## BURR CLOVER

A companion crop with Alfalfa for the range. It thrives best on adobe soil, enduring considerable alkali. It starts growing as soon as the fall rains set in, and with a minimum of rainfall such as we have in "dry years" it grows luxuriantly, bearing enormously of seed pods. When mature the whole plant dries, forming a mat of good cured forage relished by all stock. (Per lb. 50c) (10 lbs. \$4.50) postpaid. Write for quantity price.



Part of the above 1000 acres of Alfalfa. Situated within the City Limits of Los Angeles. The property of the Los Angeles Creamery.

## Hairy Peruvian

The following extract is from a report made by the University of Arizona:

"We are recommending the Hairy Peruvian type of alfalfa for the irrigated valleys of Arizona in preference to the common alfalfa. We base our recommendations upon the work done with alfalfa at the experimental farms at Phoenix and Yuma, and also upon observations of this crop grown in commercial quantities in various parts of the Salt River and Yuma Valleys. In these valleys it gives at least two cuttings more than are obtained from other varieties. Hairy Peruvian also seems to have a greater seed producing characteristic and to be less susceptible to diseases than the common alfalfa."

**Hairy Peruvian** Recommended by the Department of Agriculture as being more hardy than the smooth Peruvian and because it is more hardy, it has a longer growing season and will yield more tonnage per acre per year, and on that account is more valuable. (Per lb. 50c) (10 lbs. \$4.50) postpaid. Write for quantity price.

**Chilian or Common** This variety has proven so entirely satisfactory to everyone for more than forty years that nothing better was looked for, and is indeed now so thoroughly satisfactory that many will hesitate to believe that any variety of alfalfa can be better, therefore we have an ample supply of the Chilian seed. (Per lb. 40c) (10 lbs. \$3.50) postpaid. Write for quantity price.

**Smooth Peruvian** Introduced by us a few years ago. Our claim to superiority over the Chilian was in the fact that it was hardier, yielding one more cuttings each year and more each cutting.

Being hollow stemmed it is softer and eaten entirely by stock. The leaves adhere to the stem after it is dry, adding greatly to its merit.

All of these claims held good and the smooth Peruvian rapidly grew in popularity and is now preferred by many satisfied growers. (Per lb. 50c) (10 lbs. \$4.50) postpaid. Write for quantity price.

**Alsike or Swedish Clover** This is one of the hardiest varieties known. It is perennial and does not winter kill. It will do better on moist land than any other variety of clover, and is suitable for either hay or pasture. When sown with other grasses, it forms a thick undergrowth and greatly increases the yield. (Per lb. 60c) (10 lbs. \$5.00) postpaid. Write for quantity price.

## CLEAN SEED

Few planters realize the cost of clean seed. They know the seedsman pays, often less than half the selling price. They prefer to buy from the grower and the grower prefers to sell to the planter for a little more than the seedsman will pay.

As an illustration, let us follow corn seed from the grower who shells everything, puts it over a blower and a screen to remove the cobs and dust, and offers it for seed regardless of the fact that it was grown along side of another variety.

A seedsman will plant only pure seed isolated from any other variety; when harvested all nubbins are thrown out and tips cut off. The corn is shelled and screened to grade a certain uniform size. It is pure, clean and sized so that when planted it will drop from the machine uniformly and without waste, while the seed that was not so cleaned and graded would give an uneven stand of inferior corn causing a loss of 25% when the returns are all counted.

And so it is with other seeds all along the line, except that with clover and small grain you are likely to get troublesome weeds. The big offenders in selling impure seed over the country are those who sell as a side-line. This is seldom true in the southwest, because the small town dealers are getting their seed supply from the regular seedsmen, and selling it as such, putting the responsibility up to the seedsman, who must maintain his reputation. Ask for A & M reliable seed.



## SWEET CLOVER FOR FORAGE

(*Melilotus alba*)

**Melilotus alba** This is a valuable addition to the farm as a forage crop. When quite young, it may be pastured or cut and cured for hay. This should be done just before the bloom appears. It is hardier than alfalfa more drouth-resistant, and better for renovating the soil. It may be cut twice the first season and three or four times the second season, yielding 2500 to 3000 pounds of hay each cutting. It is as easy as alfalfa to eradicate, is biennial. On account of its hardness to resist extreme cold, heat and drouth it is grown largely for pasture. It is highly recommended by the Department of Agriculture. (Per lb. 35c) (10 lbs. \$3.00) postpaid. Write for quantity price.

### 21 Reasons for Planting Melilotus alba

1. It is not a weed.
2. Like alfalfa, it is rich in protein.
3. Will not bloat cattle or sheep.
4. Equal to alfalfa for pasture.
5. Is a great milk producer.
6. Furnishes early spring pasture.
7. Contains more protein than red clover.
8. Fits well in the crop rotation.
9. Is a great soil enriching crop.
10. Better than any of the common clovers as a green manure crop.
11. Is a valuable plant for honey bees.
12. Prepares the soil for alfalfa.
13. Roots are soft and give no trouble in plowing.
14. Roots being tender become inoculated more readily than alfalfa.
15. Never damages cultivated crop.
16. Its roots decay rapidly, adding much nitrogen and humus to the soil.
17. Grows and will produce a crop in all parts of the United States.
18. Seeds freely in both humid and dry sections.
19. Sweet Clover prevents erosion.
20. Will grow under conditions where clover and alfalfa fail:
  - (a) On land too low, too wet or too alkaline for alfalfa.
  - (b) On land too hard and compact for alfalfa;
  - (c) On soil too poor for alfalfa, especially where there is lime.
21. It is immune to nematodes.

Now read again these twenty-one reasons for planting Melilotus Alba, and see wherein it suits your particular case.

### A Few Dont's

Don't plow deep.  
Don't sow deep.  
Don't cut low in mowing—at least 6 inches high.  
Don't have subsoil loose.  
Don't be afraid to sow sweet clover.

### Melilotus alba for the Range

Mr. Stockman, as soon as you read this send for some seed of this Sweet Clover and just to get a start sow at the rate of one pound per acre all over your range. On any kind of soil. If not pastured too closely you will soon have a valuable range for your stock.

### A Word About Bloating

You dare not pasture cattle on alfalfa during the night and early morning for fear of bloating. But you may pasture them on Sweet Clover; therefore, in order that your cattle may feed during the night and early morning, have a field of Sweet Clover to pasture at that time, and thereby you produce more milk, save the alfalfa and avoid bloating.



Sweet Clover on the Bixby Ranch

(From "The California Cattleman," October, 1920)

### A Practical and Highly Successful Experiment

By Fred H. Bixby

I have had 600 head of steers in one field of 200 acres of this rank clover for approximately six weeks, and although the steers improved very much, you could hardly see that they had eaten any of the clover.

After having experimented with this clover for two years, I am of the following opinion:

- (1) It is as good a fattening feed as ordinary alfalfa;
- (2) It will never bloat an animal;
- (3) It will grow in ground that alfalfa will not grow in;
- (4) Four or five plants in a three-foot square indicate a very good stand. If irrigated, about one-third as much water as is necessary for alfalfa is needed. It is the greatest thing that I have ever found to bring back worn out land.

After the experiences during the last two years, I would formulate the following rules concerning the preparation of the soil, planting and harvesting the clover crop:

- (1) Don't plow the ground.
- (2) Use a disk and give the ground a very shallow disking as soon as possible after the first rain.
- (3) Sow 15 or 20 lbs. of barley per acre with a broadcast seeder.
- (4) Harrow twice.
- (5) Inoculate your clover seed and plant about 15 lbs. per acre, either with a drill or with a grass seeder.
- (6) Don't harrow after you plant the clover, but run over the ground with a horned-toad or cross-kiln roller.

The main trouble in planting sweet clover seed is that it gets too deep in the ground and will not come through. The seed should barely be covered, and in many cases seems to do better when it is not covered at all.

As soon as your barley gets to the dough stage or even only in the milk, cut it and keep on cutting it once every month or six weeks during the summer.

Do not disk or re-seed, but at the end of the second year plow your ground shallow, only deep enough to cover the clover that you are plowing under. After this remains in this condition for a month or six weeks, plow it again and prepare your seed bed for anything you wish to plant.

Don't under any circumstances ever allow your clover to grow over three feet high. Cure it and handle just as you would alfalfa.

## Grasses

Write to us for our Bulletin No. 120.

### Forage for Range and Ranch

Aggeler & Musser Seed Company have given much importance to the department of grasses and have issued a 32-page bulletin on the subject. Owing to limited space in this catalog there are few illustrations under this subject, but you are requested to write to us for our Bulletin 120 which has twenty-eight illustrations from photographs taken at our demonstration plot. You are invited to see this demonstration at the rear of our warehouse, 1934 East Fifteenth Street—one block east of Alameda.

### MR. CATTLEMAN, READ THIS

There is scarcely a ranger in the Southwest who has not at some time been greatly inconvenienced and endured much loss from lack of feed following a season of light rainfall.

These periodical losses we believe can be reduced to a minimum by co-operation on the part of cattlemen working together to improve the range by a systematic elimination of the undesirable vegetation, encouraging that which is good and introducing new vegetation by planting seeds of grasses that are known to thrive under similar conditions in other parts of the country and from other parts of the world.

For more than a score of years Aggeler & Musser Seed Company have, by selection and adaptation, given to the Southwest the best class of vegetables produced anywhere in the world, thereby contributing much to the upbuilding of this great empire.

Our latest organized effort to be of a substantial benefit to the Great Southwest is to assist the stockmen to find some valuable forage plants that will endure each and every condition that exists on the vast ranges of the desert and mountains, that they may be covered with grasses that will maintain great herds of stock.

One great source of waste exists in the barren condition of

what are called desert lands; unirrigated lands, hillsides, swamp lands, alkali soils and many other conditions.

We have given this much study and have concluded there is somewhere good grass suited to these conditions, so that if sufficient seed were obtainable these barren places could be made to support countless herds of cattle, goats and sheep.

After several years of application to this subject we have found a number of grasses and millets that are now growing on ranges and in places such as we have described.

If you are interested in maintaining a good range, write the Department of Agriculture, Washington, D. C. Ask for Bulletin No. 791 and No. 772, the latter entitled "The Genera of Grasses of the United States," with special reference to the economic species by A. S. Hitchcock, Systematic Agrostologist.

By a careful study of the various agricultural bulletins, both Federal and State, and of the valuable work contributed by Prof. P. B. Kennedy of the University of California, together with our demonstration of grasses, seed of which was gathered from all parts of the world, we have much encouragement, believing that by the same system of selection and adaptation that met with success in the vegetable line, will succeed in the betterment of our range. It is too big a job for the individual; your co-operation is essential.



## GRASSES—(Continued)

MR. DAIRYMAN AND STOCKMAN,  
READ THIS

You want the best as well as the most economical feed you can obtain upon a limited acreage. To get this you want the crops that will give you the best quality and greatest tonnage for your silo. You also want the pasture that will give you best quality and quantity extending over the longest season. You also want the crops best suited to your soil and climatic conditions.

We have given much attention to your requirements and we are sure you will find in these pages something suited to your purpose. We also invite you to see our demonstration referred to at 1934 East Fifteenth Street.

## POULTRYMEN

To the small stock breeder and poultryman, you will find in the subject of grasses just as much of interest to you as to the large breeder. Read it carefully.

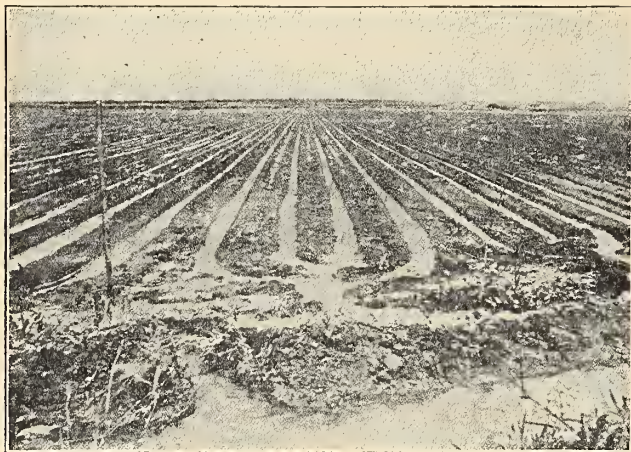
## HOW TO PLANT SMALL GRASS SEED

## GETTING A STAND BY THE CORRUGATED SYSTEM

Many stockmen have been deprived of valuable pasture for grazing because of the almost insurmountable difficulty to sow fine grass seeds and get a good stand.

Mr. Renfrew, who has 320 acres of Rhodes Grass growing at Niland on the heaviest kind of alkaline soil, situated on the border of the Salton Sea, kindly offers a satisfactory solution which we will try to explain.

Plow and thoroughly pulverize the soil, make as level as possible and grade it to a fall of 12 inches to the thousand feet. Sow the seed broadcast both east and west and again north and south. After the seed has been sown drag the field in straight lines from the higher toward the lower side with an ordinary drag, having nailed to the bottom three feet apart, pieces of 4x4 beveled at the forward end. This makes small irrigating ditches. This is called the corrugating system. Allow water to flow slowly and continually through the ditches each day until the seed has sprouted and the grass well established, after which time apply the water only when needed.



Getting a Stand of Grain, Grass or Alfalfa by the Corrugated System

## SETARIA MYGROSTIS

Mr. Goodwin of Los Angeles, whose ranch is at San Jacinto, has given much effort to try out in a fair way the various grasses we offer. He reports as very satisfactory in that climate, the Smilo, Phalaris and a species of Setaria, called Mygrostis, which we have not advertised for the reason that it may prove a pest, but this Setaria gave more growth with less moisture than any other grass.

If you have a range where a good grass can do no harm, try this Setaria Mygrostis. Although it seeds freely we have none to offer. We offer rooted crowns at \$1.00 per dozen (\$4.00 per 100) postpaid.

## GUINEA GRASS

(PANICUM MAXIMUM)

We have but little information concerning this grass. Mr. Nichols of Beaumont, Texas, is our authority for saying it is an excellent permanent pasture relished by all stock.

Our demonstration shows it growing stems emanating from the crown at the ground and growing six feet high with abundant foliage and a seed panicle two feet higher. It is perennial and is as hardy as Napier.

The variety we offer is the highland or Indian Guinea, highly prized by stockmen of South America because the cattle quickly grow fat when they eat this Indian Guinea.

We have no seed but it grows readily from root divisions, which we offer at \$1.00 per dozen, postpaid, to anyone wishing to experiment with it.

## NAPIER AS A WINDBREAK

Another very practical use for Napier is to form a windbreak about the garden or a sunny protected spot to grow your field plants for early vegetables.

This picture was taken at the ranch of Mr. Wm. Spangler, near Redondo. He is very proud of his windbreak and says it is very effective in preventing the sand from drifting over his garden. The row was planted April, 1921; the picture was taken Sept. 15th, 1921. If you need such a windbreak, start one in April and next year you will sell joints to all your neighbors.



Napier for a Sand or Wind Break

## NAPIER GRASS

Napier is a rank growing cane-like perennial. It grows to a height 8 to 12 feet, depending more upon the amount of moisture than upon the condition of the soil; yet it is called a wonderful drought resistant plant. This has been verified by our trial at Laguna where it maintained a fresh verdure during the entire summer without irrigation. It stooped enormously, but grew only four to six feet tall.

The best time for planting dormant joints in the open field is in March, or if the ground is cold, and there is yet danger of frost better wait until April or May.

These sprouts will within eight or ten weeks grow twenty or more sprouts forming a clump that may be divided so that each sprout will have some roots. These are offered as divided crowns. There is practically no risk planting them as 100 per cent will grow if given sufficient moisture.

Where frost may not appear before November 1st, it is safe enough to plant dormant joints during August, but after September 1st we should advise the planting of divided crowns and water freely.

When you receive your joints that have been several days in transit, put them in fresh water for at least twenty-four hours, and should you not have time to plant them at once, let them remain in the water a week or even longer, but change to fresh water about every third day. They will root and sprout in the water.

	Price (postpaid)	Per doz.	100	500
Joints	.....	\$ .75	\$1.00	\$12.00
Crowns (Divided)	.....	1.50	6.00	20.00

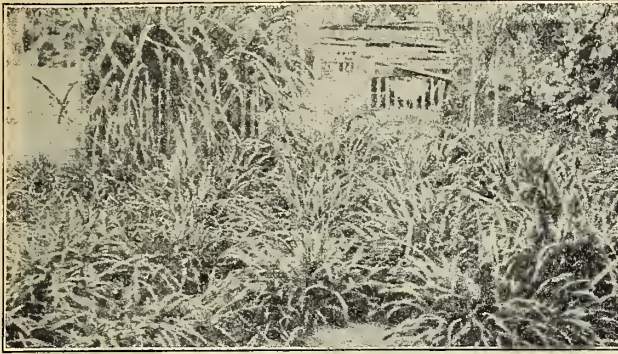


The Right Way to Plant Napier Joints.



## GRASSES—(Continued)

## NAPIER—(Continued)



Napier Grass cut every ten days from June until November to feed the Chickens and Goats

Single eye cuttings are planted with very little difficulty. The operation of preparing it provides a sharp point at the lower end of the cutting; and this is simply thrust obliquely into the ground, covering the joint to a depth of 2 or 3 inches. With canes in good condition and other factors favorable, both roots and sprouts will be sent out from the single joint and a good vigorous plant soon established.

One joint planted during April will grow as many as twenty or more sprouts that may be separated July 1st and planted separately, so that by October 1st the original joint may be multiplied by 400. We advise that no subdivision be made after October 1st, but let the crown remain undisturbed until the following April, when each one will again produce twenty or more divisions besides many joints. Thus one joint within twelve months will produce more than 8000 plants. This is a conservative estimate.

For field pasture or browsing we recommend planting two feet apart in rows three feet apart.

For frequent cutting we advise planting twelve inches apart each way; thus one plant to each square foot will quickly fill the place solidly with succulent green feed that may be pastured or cut frequently for hay or green feed for chickens, rabbits, goats or the family cow.

In a discussion of this grass as found in a state of nature in Tropical Africa, the author says:

"It occurs along watercourses and in marshy depressions, but also enters the bush and forest where open spaces afford sufficient light. In rich marsh land it attains a height of 21 feet, while in drier soils it only grows 6 feet high.

The cane bends to the ground; if moisture is there they quickly take root.

Its habit of growth is like millet and is about as easily eradicated as kaffir corn. It grows very rapidly and may be cut when 3 or 4 feet high, supplying a heavy yield of green feed or hay. In palatability, Napier Grass is not excelled by any similar non-leguminous feed.

From our observation of Napier, we believe that the best purpose to which it can be used is in the manner of a permanent pasture for browsing. When well established it will endure our winters, and with irrigation could be pastured throughout the summer and late fall. Cattle cannot destroy it. If browsed clean it will quickly recover. We believe as a browsing pasture, Napier is at its best.

**Kikuyu Grass** (*Pennisetum longistylum* Hochst). Write the Dept. of Agriculture and ask for Bulletin No. 1125.

This promising grass originated in Belgian Congo. In our climate it does not produce seed, therefore, it must be propagated by transplanting cuttings which take root quickly and grow rapidly.

Farmers Bulletin No. 1125 describes Kikuyu Grass, viz: "Has leaves and creeping stems much like those of Carpet Grass (*Paspalum compressum*) though much larger and more succulent. It makes a very dense growth; is eaten greedily by horses, cattle and hogs and promises to be of great value as a pasture grass." It is not particular as to the nature of the soil; it will not become a pest, because it makes no seed and keeps above ground.

Kikuyu Grass is a perennial and spreads rapidly over the ground by means of running stems or stolons, which carry a quantity of leafy material, thus providing a bulky mass of fodder. The stolons send out roots at every joint, thus anchoring the grass firmly and at the same time forming a dense turf which will stand the trampling of heavy stock. This turf-forming habit is important when selecting grasses for a permanent pasture.

**Conclusion** Kikuyu is propagated by means of cutting. It grows well on almost any class of soil. It stands frost very well.

It is very drought resistant.

It is recommended for planting on places subject to erosion.

It is useful in smothering out Bermuda.

It should be well established before pasturing.

One dozen cuttings planted during March or April will, by September cover solidly an area 20x20 feet, which will afford thousands of cuttings for the following spring.

(Per doz. cuttings 50c) (Per 100 \$3.00) postpaid.

## RHODES GRASS

(*CHLORIS CAYANA*)

Write Department of Agriculture, Washington, D. C.)  
Ask for Farmers' Bulletin No. 1648

Another year of experience with Rhodes Grass has added much to its popularity. It might be claiming too much to say that for a permanent pasture field it excels alfalfa, but it is no exaggeration to say it has a wider usefulness, because it will thrive on soil too alkaline for alfalfa. It will endure more drought, more pasturing, more neglect, and will support as many head of stock per acre.

The following extract is from the U. S. Department of Agriculture Bulletin 1048:

"Rhodes Grass was first cultivated because of its pasture value. It bears pasturing well, recovers quickly after it is eaten down, and is relished by all kinds of live stock. In pastures favorably located, Rhodes Grass will support about two steers to the acre for 9 to 10 months and double that number during the more favorable parts of the year. The quality of hay made from Rhodes Grass is superior to that of most other grasses in that it contains a larger proportion of leaves, while the stems are slender, tender and sweet, so that the hay is eaten with very little waste. It retains its color well in drying, therefore making an attractive bale for the market."

Mr. McArthur of this city planted twenty acres near Holtville, in Imperial Valley, on soil that was white with alkali. He is very enthusiastic concerning it. He says it is the most valuable grass that has ever come to Southern California. There is no longer any excuse for waste places; every acre of alkali soil may now be converted into valuable grazing land.

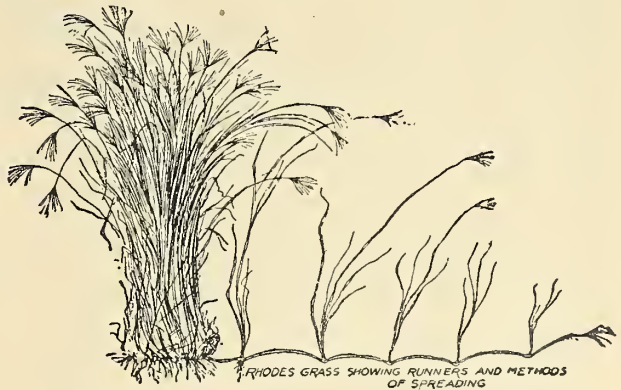
Rhodes grass does not grow underground sprouts like Johnson or Bermuda grass, but sends runners over the surface like strawberries. It is easily eradicated.

Rhodes Grass will drive out Bermuda and other weeds because of its dense growth. It is easily eradicated by being plowed once and let stand for sixty or ninety days. It adds humus to the soil.

The best time to plant Rhodes Grass is from April 1st to September 1st.

The soil must be well prepared by thorough pulverizing, then corrugated (see page —). Broadcast 12 pounds of seed per acre, going over the field twice, once north and south and east and west, sowing 6 pounds each way. Keep the soil continually moistened until the grass is established. It grows so rapidly that the first cutting may be had the sixth week. Do not pasture until after the second cutting.

Price—(per lb. 85c) (10 lbs. \$7.50) postpaid. Write for quantity price.



Col. J. D. Fredericks planted Rhodes Grass on his ranch south of Hynes. It was planted about the middle of August and on October 15th it was about eight inches high, growing nicely in some of the strongest alkali in that part of the country.

Early in the summer Mr. Holman of Artesia, threw some seed along the roadside where there was an excess of alkali. In August it was in full bloom amidst the Bermuda and tar weeds with every indication that it would survive and destroy the weeds. It is a valuable addition toward eradicating Bermuda, furnish pasture or hay, and reclaim alkali soils.

We promise that it will reclaim and make valuable all that alkali soil southeast of town now lying waste and add many thousands of dollars to the land values of Los Angeles, Orange or any other county where it is planted.

## Read

The most dangerous offenders of the pure seed laws are irresponsible growers who gather seed from surplus crops regardless of any conditions surrounding the growth, and have no facilities for cleaning, and will offer the seed by the wayside to anyone who will purchase it.

Mr. Planter, we advise that you get a strong microscope and with it examine any seed before you buy. You will then not hesitate to pay the higher price for clean seed. When you go to your store for your seed, ask for A & M seed; it is pure and clean.



# Harding Grass

(Phlaris stenoptera.)



Harding Grass Grown at Altadena, Cal.

## HARDING GRASS

### THE BEST WINTER GRASS KNOWN

We are indebted to Prof. P. B. Kennedy for this description of this new and valuable grass:

The origin of Harding grass is obscure, and, strange to say, it has not been found wild in any country. It is a perennial and withstands the climatic conditions in the great central valleys of California.

Experiments at the University farm at Davis have proven that it will maintain itself year after year, and produce abundant and palatable pasturage or hay without irrigation. It furnishes succulent feed during the winter season when alfalfa is dormant.

The seed germinates quickly and readily with the first fall rains, and even though the very fine hair-like seedlings are exposed to severe frosts they are not injured. It grows rapidly and produces large clumps the first season.

The foliage is devoid of hairy coverings of any kind, and is free from rust, thus tending toward a clean hay and palatable pasturage. During the first season the flower-bearing stems are comparatively few and grow only about two feet high. During the second season a dense leafy mass three feet high is produced with the flower bearing stems four to six feet high, depending on the rainfall.

Feeding operations with calves, in co-operation with Dr. Woll at the University Farm at Davis, show that the winter growth of the grass is very much liked and that it compares very favorably with alfalfa as a feed. All classes of stock are partial to it.

Small trial plots at Berkeley have also done well, although the growth is much slower.

P. B. KENNEDY,

Grass and Forage Plant Investigations.

University of California.

The sample of Harding Grass cut last December on the 1-acre plat at the University Farm has been analyzed at Prof. Jaffa's Laboratory with the following results:

#### Composition of Harding Grass

Water .....	20.00%
Protein .....	15.71%
Fat (ether extract) .....	4.50%
Fibre .....	14.92%
Nitrogen-free extract .....	34.45%
Ash .....	10.00%

(Signature) F. W. WOLL,

Prof. of Animal Nutrition.

Price (oz. 50c) (lb. \$3.50) postpaid.

Plants (dozen small crowns 50c) (100 \$4.00) postpaid.

**Mr. Stockman:** You may want to place a tank at a spring somewhere on your range and would like to know how large a tank you will need. The following table gives the capacity of a tank of a given size. Know the number of cattle you have and estimate that each head will require five gallons per day.

A tank 6 feet in diameter and 8 feet deep holds 1776 gallons and would keep 100 cattle four days, 25 cattle 15 days.

Tanks of the diameters given below hold the following number of gallons for each foot in depth:

A tank 6 feet in diameter holds.....	247 gals. per ft.
A tank 8 feet in diameter holds.....	375 gals. per ft.
A tank 9 feet in diameter holds.....	475 gals. per ft.
A tank 10 feet in diameter holds.....	586 gals. per ft.
A tank 11 feet in diameter holds.....	710 gals. per ft.
A tank 13 feet in diameter holds.....	992 gals. per ft.
A tank 15 feet in diameter holds.....	1321 gals. per ft.
A tank 20 feet in diameter holds.....	2349 gals. per ft.
A tank 25 feet in diameter holds.....	3670 gals. per ft.
A tank 30 feet in diameter holds.....	5080 gals. per ft.

Figured on the above basis, a cistern 15 feet in diameter and 10 feet high would hold 13,210 gallons. A cistern 20 feet in diameter and 15 feet high would hold 35,235 gallons.

## DALLAS GRASS

(Paspalum dilatatum)

This grass should be established on pastures.

Grows on any kind of soil—endures some alkali—excellent for permanent pasture on marsh or mesa—grows winter and summer with moisture—excellent for hay—may be cut every six weeks—becomes dormant with drouth but revives with less moisture than any other grass, yet will survive if submerged for several weeks—stools and seeds freely. It has been tried and proven in this section to be one of the best of grasses for permanent pasture in meadow or on mesa where it must depend solely upon the season's rains.

The seed takes root among the weeds and devil grass, choking out everything in its way. The dense tufts of grass make a thick sod capable of supporting the cattle on marshy land. The stock relish it fully as well as alfalfa. It is as easy to eradicate as Timothy or as any other bunch grass. Ten pounds is sufficient to sow one acre broadcast.

The second year's growth of Paspalum on our trial ground excels all the low bent grasses for quick recovery after drouth.

(Per lb. 75c) (10 lbs. \$6.50) postpaid. Write for quantity price.

## PERENNIAL RYE GRASS

(Lolium perenne)

Also called Australian Rye. Probably the oldest cultivated grass in existence, having been in cultivation previous to 1677, and is yet grown for pasture probably as extensively as any other grass. It quickly covers the ground with a dense mat of foliage ten inches deep with seed stems twenty inches high. It is perennial, but endures seldom beyond the third year. It is an ideal crop for rotation.

Sow in the fall with barley, oats, wheat or alfalfa, to be pastured. It is excellent for fattening cattle.

Sow 40 pounds per acre. (Per lb. 35c) (10 lbs. \$3.00) postpaid.

## PARA GRASS

(Panicum barbinode)

It is native pasture grass on the meadows and bottom lands of Mexico. Cattle fatten upon it with no other feed.

Excellent for swamp or overflow lands or with irrigation—any kind of soil that has sufficient moisture—endures much alkali—roots survive the cold winter and months of drouth—foliage is dormant in winter, but without irrigation will grow three or four feet high in the spring until checked by drouth—with irrigation grows rampantly—may be cut and dried for hay every four weeks—it is relished by all stock—it does not seed in this climate—is propagated by transplanting joints or stems or by spreading green grass on prepared ground and disked in.

Just the thing to plant in places perpetually moist from seepage or drainage.

There is no seed, therefore we offer stems at 75 cents per 100; \$5.00 per 1000. It multiplies readily. Cuttings should be planted during April, May and June.

## ALFILARIA

(Erodium cicutarium)

Alfilaria or "filaree" has been and still is a life saver for the California ranges. It grows wild without any attention in all classes and conditions of soil except swamps and excessive alkali. Soon after the first heavy fall rains have saturated the ground the "filaree" begins to make its appearance. It is good pasture at all stages of its growth, even when mature and dried up. In nutritive qualities it compares favorably with alfalfa and live stock of all kinds fatten on it readily. It is hardy even where the winter temperature reaches zero or below. Little or no preparation of the soil required. It attains perfection where introduced in Texas.

Sow 6 lbs. of seed per acre.

(Per lb. 85c) (10 lbs. \$7.50) postpaid. Write for quantity price.



## GRASSES—Continued

## AUSTRALIAN SALT BUSH

(Atriplex semibaccata)

**Cardinal points:** For range near the coast or interior lowlands where fogs are of frequent occurrence—any kind of soil—endures much alkali—thrives with a minimum of moisture—very succulent during winter, spring and early summer, when it is relished by all stock—becomes parched by heat in late summer, then it is less palatable to stock, but they will thrive if forced by hunger to eat it—it seeds freely. Requires no preparation of soil for seeding. Cannot cut and dry as hay—has one tap root—easily eradicated.

(Per lb. 85c) (10 lbs. \$7.50) postpaid. Write for quantity price. Write us for Bulletin 120.

## ORCHARD GRASS

COCKSFOOT

(Dactylis glomerata)

Mr. Adolph Moritzson, a grass and seed expert, says of it: "Fifty years ago the Bank's Peninsula of New Zealand was a wilderness. Nothing worth while grew there. The country was worth nothing as a grazing land for cattle or sheep. Then came the grass that made New Zealand. Cocksfoot was sown on this ground, and in a few years the region became one of the best grazing districts in New Zealand."

Cocksfoot will grow well under a wide variety of conditions. It is not a particularly drouth resistant grass, but it readily adapts itself to nearly all types of soils. For forty years it has thrived on the rocky and hilly lands of New Zealand. Where other grasses died out it produced luxuriant crops of grass. It is a stooling plant. It seeds freely and any bare spots on the ground are soon seeded by the plant itself. The plants grow three to five feet high. It is not easily killed out by close grazing as many pasture and ranch grasses are.

This grass does well sown either with or without other grasses. It is frequently sown in such pasture mixtures as white clover, red clover and rye grass. If sown alone, 25 or 30 pounds of the Cocksfoot seed will insure a good stand of grass.

Keep the cattle away from the grass until it is well established. Otherwise the young plants may be eaten so close and trampled so much that they will die. After the grass once makes a good growth the danger of this is slight.

(Per lb. 50c) (10 lbs. \$4.50) postpaid. Write for quantity price.

## Chewings Fescue

One of the best grasses to sow in a meadow. Mixed with Red Top and White Clover it is a valuable pasture grass. It is also suitable for lawns and putting greens. (Per lb. \$1.00) (10 lbs. \$9.00). Write for quantity price.

## SMILO GRASS

(Oryzopsis miliacea) Many Flowered Millet

(Recommended by the University of California). It is a hardy evergreen perennial, drouth-resistant bunch grass that thrives on dry hills among rocks and brush, and is a wonderful producer when planted in good soil, but must have sufficient moisture to get good root system before the dry season. It also thrives under trees.

Smilo seed originally came from Southern Europe, where it is considered one of the best forage grasses.

Smilo will not become a pest, as it has fine fibrous roots which penetrate very deep, but is easily cultivated out.

Do not plant seed over 1/4 inch deep. Better sow on top of ground and harrow lightly. When planted deep we have known Smilo to be in the ground two years, but as soon as brought to the surface and got sufficient moisture it came up and made a good stand.

When possible plant seed before fall rains, during September and October, so that it may get a good root system before the cold weather and will stand the following dry season.

We have a limited amount of seed which will be sent postpaid. (Packet 50c) (lb. \$3.00) (10 lbs. \$26.00) postpaid.

Good, well rooted, divided crowns, 75c per 100 postpaid; \$4.00 per 1000 f.o.b. here.

## RED TOP

(Agrostis vulgaris)

Red Top is a perennial grass which grows from a few inches to five feet in height under varying conditions of soil and climate. But the average height is probably 18 to 20 inches. It is now more highly esteemed as a pasture grass than a hay plant, because of its power to endure, and because of the degree of its permanency, but in many areas it is still considered an important hay plant.

No useful grass in America will grow on a greater variety of soils and yet some soils have far higher adaptation for Red Top than others. Highest in adaptation, probably are the tide lands which border on the Atlantic and the Pacific. Next in adaptation come the slough lands composed largely of humus or river bottoms, made up of alluvial soils considerably tempered with clay.

No other useful grass would seem so well adapted for being grown in wet situations, even in places so moist as to be saturated with water for a considerable portion of the late autumn and the early spring. It will even stand shallow submergence for several days, when the weather is cool, and for a longer period than almost any other useful grass when it is warm.

The soil should be carefully prepared. Thoroughly pulverized and clean of weeds. Sow broadcast 14 lbs. of seed per acre. (Per lb. 50c) (10 lbs. \$4.50) postpaid. Write for quantity price.

## RUSSIAN BROME GRASS

(Bromus inermis)

Bromus inermis is one of our hardest perennial grasses; no amount of cold will kill it. It withstands the severest drought, and water may stand on it for weeks. It will grow on any kind of soil.

It requires twenty pounds of seed per acre.

Russian Brome Grass is essentially a pasture grass, but it also makes good hay. All kinds of stock are fond of it, and no other grass, unless it be orchard grass, will furnish grazing for so large a portion of the year. Its producing and feeding value for hay is about equal to that of Timothy.

It keeps alive under conditions that would destroy many other grasses and it will then grow vigorously when moisture is brought to it. It can be made to render excellent service in states where rainfall is not more than 12 to 15 inches.

Price—(per lb. 75c) (10 lbs. \$6.50) postpaid. Write for quantity price.

## Pacific Rye

An excellent hardy grass for the coast range, on hillsides and meadows. It resists drouth wonderfully and is quick to recover after a slight rainfall. (Per lb. 35c) (10 lbs. \$3.00) postpaid. Write for quantity price.

## ITALIAN RYE GRASS

(Lolium Italicum)

Arrives earlier at maturity than Perennial and produces a large amount of nutritious herbage. Its duration being but two or three years, it is not adapted for permanent pastures, yet highly valuable for rotation of crops. It is specially adapted for sowing in autumn with oats, barley, rye or clover, as a catch-crop for fattening stock. Sow 30 pounds per acre. (Per lb. 35c) (10 lbs. \$3.00) postpaid. Write for quantity price.

## BERMUDA GRASS

(Cynodon dactylon)

Bermuda Grass is unquestionably the best pasture grass in the south, viewed from the standpoint of palatability, productiveness and endurance. There are reasons for believing that in its proper sphere it will produce more grazing and more meat than blue grass under the most favored conditions. Sheep can graze upon it from 7 to 9 months in the year, according to locality. Sow seed during May and June, five pounds per acre. (Per lb. 75c) (10 lbs. \$6.50) postpaid. Write for quantity price.

## SUDAN

Write College of Agriculture, Berkeley, Cal., for Bulletin No. 277

**Sudan Grass** Has made good and has become more popular each year. Cardinal points: Not particular as to soil—endures much alkali—an annual—planted during April first cutting in sixty days may yield four tons of dry hay per acre and three to four tons may be cut each thirty days until October.

Twelve pounds of seed is required to plant an acre in order to produce hay of fine quality.

The seed may be planted with a Superior beet drill or other drill with extra plate or sow broadcast.

Sudan Grass thrives with excessive moisture and endures extreme drouth. The foregoing points are not all the best features of this grass. In the months of August and September, when all other grass is dry, then is the time that Sudan is most valuable for fall pasture for cattle and hogs. We believe it will solve the hay proposition as nothing else can do in this climate.

Sudan Grass is ideal for growing with the Whip-poor-will Cow Peas. The stem is stiff enough to support the vines, and the mixture makes a better balanced ration for the stock. It is a good silage. It is a good thing to plant in old alfalfa fields. (Per lb. 30c) (10 lbs. \$2.50) postpaid. Write for quantity price.

## A GOOD FORAGE

## Dwarf Essex Rape

Pasture for Hogs, Sheep and Poultry

There is a need and a place for an extra quick growing green forage crop for use any time during fall, winter and spring, and our Dwarf Essex Rape fills that need exactly.

Rape can never become a pest as it belongs to the same general family as the turnip and rutabaga, and when planted under favorable conditions of soil and season, it makes an immense crop of green forage, juicy and succulent, and often at a time of year when little green feed is available.

(Per lb. 30c) (10 lbs. \$2.50) postpaid. Write for quantity price.

## Barley as a Winter Pasture

Several other plants furnish good winter pasture, but none are so valuable as Barley. It affords grazing earlier, and more abundantly. It recovers more rapidly after being grazed down. It is more relished by stock and more wholesome. It stands up so that stock can eat it with less dirt or other objectionable matter, and it is never affected by rust.

Sown in September it affords good grazing until May, but if the stock are taken off in March, a good crop of grain can be harvested.

For this purpose sow 100 pounds per acre and irrigate if needed.

Barley sown in an alfalfa field during October will make good pasture during the winter when alfalfa is dormant, or it may be grown for hay without injury to the alfalfa.



# The Silo

Write Department of Agriculture, Berkeley, Cal., for Circular No. 138, September, 1915, by Professor F. W. Woll; also Circular No. 173; also Bulletin No. 282, Issued August, 1917.



At the Hansen Dairy, Lankershim, Cal.

The silo has become one of the many big things for which California is famous. It has revolutionized farming with regard to forage crops. The silo has done much toward the betterment of the dairy and made possible the feeding of large herds of cattle.

**The Silo** A Big Money-saver. If you have ten or more head of stock, it will be profitable for you to have a silo. Therefore, if interested write at once to the University of California, College of Agriculture, Berkeley, California, for circular No. 138 (Sept. 1915), entitled "The Silo in California." It is complete in its information and after reading it you have all the information you will need, and you will at once go about building a silo. Just the size you will require, and you will know about what it will cost. This circular tells you what crops are best and what proportion of water to add; what stage of maturity crops may be cut; in short, the information in the circular is so complete you cannot make any mistake, from the building of the silo to the time when the silage is ready to feed to the stock.

## BEST CROPS FOR SILAGE

Indian corn heads the list as recommended by the Dept. of Agriculture. The varieties that exceed in tonnage yield per acre are: **Orange County Prolific, Eureka Ensilage, Mexican June (Sacaton) and Hickory King.**

Twenty tons per acre would be a good average for 100 acres. There have been acre yields of as much as forty tons, but that is too much to expect a large field to average.

## MORE SILOS NEEDED

Silage has been shown to be a most efficient and economical feed, especially for dairy cattle, and in order to produce and conserve as much feed per acre as possible, a greatly increased number of silos is considered most important. While many kinds of green feed may be preserved in the silo, sorghum and ensilage corn are considered best in Los Angeles County.

Here are ten good reasons why a silo should be on every farm where livestock is kept:

1. The silo preserves the palatability and succulence of green crops for winter feeding.
2. It conserves the entire crop.
3. The silo increases the livestock capacity of the farm.
4. Silage can be fed in summer when pastures are shot.
5. Silage is relished by dairy and beef cattle and sheep.
6. It is digestible and aids in the digestion of other foods fed with it.
7. Silage reduces the cost of production of milk, beef and mutton.
8. It will increase the milk flow.
9. Silage promotes the health of the herd.
10. The silo provides an economical method for the storage of roughage.

Without the aid of the silo it is almost impossible to maintain a maximum production of milk throughout the year, because of the climatic conditions which in east sections make suitable pasture unavailable at certain times, and because of the inability to properly plan a system of green crop rotation during every month. Up to date dairymen realizing these facts, are taking advantage of the silo to keep up their production.

## THE SIZE OF SILO TO BUILD

No. of Cows	Pounds Required Daily	Size of Silo Diam. Feet	Silo Needed Height Feet	Cap. Tons
6	340	9	20	22
9	360	10	24	34
13	520	10	30	47
15	600	12	26	55
20	800	12	32	74
25	1000	12	38	94
30	1200	14	34	109
35	1400	14	38	128
40	1600	16	34	143
45	1800	16	38	167
50	2000	16	40	180

Based on 40 lbs. per cow a day.

One ton of hay requires 500 cubic feet of storage space, while one ton of silage requires only 50 cubic feet.

The best dairymen feed about forty pounds of ensilage, with two pounds each of bran and oil meal daily to each cow in order to secure the maximum milk production.

## A & M Field Corn

### A NEW CONDITION

#### That Governs the Price of Seed Corn

Since the coming of the silo a new condition has come upon us. A readjustment must be made to keep down the high cost of corn. Before the silo, corn was valued according to the yield of grain and the various varieties were gauged from that point of view, but since the coming of the silo varieties are valued according to the tonnage of silage they will produce.

The silo has caused an enormous increase in acreage planted to corn, but a deplorable scarcity in the supply of corn either for seed or for food.

It is true the Southwest can import corn for feed, but we should grow enough for both feed and silage. The farmer says: "I can grow silage and get more money per acre; I can buy my seed cheaper than I can raise it."

The result is a scarcity of seed corn, particularly those silage varieties which we cannot import.

## ORANGE COUNTY PROLIFIC

### THE MOST SATISFACTORY SILAGE CORN

Orange County Prolific was introduced by us in 1911. At that time we had stalks on exhibition with nine ears of commercial size and others that were smaller. It was first grown by Mr. S. J. Murdock at Westminster in Orange County; hence, its name. It has subsequently been offered under various names by enterprising growers. Last season we grew it together with Branching Corn, and we are now positive that the Branching Corn is none other than Orange County Prolific. We have, therefore, discontinued listing the Branching Corn. Orange County Prolific will give you more and better silage than any other corn. It is the most satisfactory variety to grow for the silo.

We have a report that the Orange County Prolific planted July 25th produced 28 tons per acre. (Per lb. 30c) (10 lbs. \$2.50) postpaid. Write for quantity price.

Dear Sir:

"I would like to let you know that from your seed of Orange County Prolific, we cut 105 tons of ensilage from 3½ acres. Some of the stalks were as high as 18 feet.

"NICHOLAS KNOPP, Calif."

## Eureka Ensilage (White Dent)

This variety is a favorite for the silo. It is because of this fact it has in the past been difficult to get seed at a reasonable price, if at all. We have now guarded against this annual shortage of seed. The tonnage of silage per acre will average well above 20 and may yield 30 tons. Any claim above this is based upon individual acreage. (Per lb. 30c) (10 lbs. \$2.50) postpaid. Write for quantity price.

## Sweet Corn for Dairy Cows

For this purpose we offer Stowell's Ever-green. It will grow more green feed than any other sweet corn. Seed is usually scarce and the price governed by the supply. Drill 40 pounds of seed per acre. If interested write for price.

You can grow a field of corn for silage and harvest the crop from thirty to forty days less time than required to mature grain, thereby releasing the ground for a fall crop. A very important phase to consider at planting time.



## CORN FOR GRAIN

We offer many sure and big yielders, but your selection should be governed by your local conditions. For dry farming, we recommend: Pride of the North, King of the Earliest, Mexican June and King Philip.

For big yield where irrigation is available we recommend all the varieties listed here, with special stress upon the acclimated Golden Beauty for local planting and the White Elephant for Kern and Inyo Counties.

Do not overlook the fact that Orange County Prolific is a leader in yield of grain as well as silage.

All varieties listed below: (Per lb. 25c) (10 lbs. \$2.00) postpaid. Write for quantity price.

### WHITE DENT

Hickory King .....	110 days
Champion White Pearl .....	110 days
Iowa Silver Mine .....	110 days
Wisconsin White Dent.....	110 days

### YELLOW DENT

Reid's Yellow Dent.....	100 days
Pride of the North.....	90 days
King of the Earliest.....	90 days
King Philip Flint.....	90 days

**Mexican June** The corn for the arid southwest. When the white man was a pioneer in Arizona and New Mexico, he tried to grow corn but failed. The country and climate were condemned; corn could not be grown, but thanks to the good work of the various state and federal experiment stations, we have the Mexican June. This has been bred up by years of selection from seed which has existed among the Indians from time antedating the Aztecs. Imperial Valley growers realized its merits ten years ago. In Arizona, New Mexico and Texas, it is now grown where no other variety will thrive. (Per lb. 30c) (10 lbs. \$2.50) postpaid. Write for quantity price.

**White Elephant** (White Dent). An excellent variety for both silage and grain and thoroughly adapted to climatic conditions in the corn growing sections of Kern and Inyo Counties. (Per lb. 30c) (10 lbs. \$2.50) postpaid. Write for quantity price.

### Acclimated Golden Beauty

(Yellow Dent). For a sure crop King Philip Flint Corn leads. But if you want a yellow dent corn this acclimated Golden Beauty insures a first-class crop where other varieties fail. It is thoroughly adapted to Los Angeles and Orange County climatic conditions. Of six varieties grown in the garden section this one excelled. (Per lb. 30c) (10 lbs. \$2.50) postpaid. Write for quantity price.



Orange County Prolific

**About Corn**—More than 5,000,000 bushels of corn was produced in California in 1919, yet this is scarcely half enough to meet the local demand. This condition ought not exist because there is ample acreage where corn may be grown under irrigation, and near the Coast where it may be grown without irrigation. Where corn cannot be irrigated plant the "King of the Earliest" and "Mexican June."

"The catalog came and let me say I am much pleased with same. I have seen a good many seed catalogs, but will say this one is most complete and comprehensive one it has fallen to my lot to look over.

"H. R. WARD, Florida."

White Elephant



## SORGHUM FOR THE SILO



This is the fifth crop of Wonder Forage from one planting during 1919. Two cuttings a season. This represents the third season.

### THE WONDER FORAGE PLANT

It stools from ten to forty full sized stems the thickness of a thumb and smaller. When the main stems mature, separate branches grow from each joint bearing other seed-heads.

The stems are succulent and sweet, as saccharine cane, not dry as non-saccharine cane, therefore it is as good as sorghum for dairy cows. Stock will eat every particle of it.

Our demonstration clearly indicates the Wonder Forage Plant will yield double the tonnage of any other sorghum. Five pounds of seed is sufficient to plant an acre.

Dairymen, each year that you delay planting this Wonder Forage Plant (Sudan Sorghum) you are missing something worth while for green forage. One acre of Wonder Forage is more valuable than three acres of Sudan Grass, both in quantity and in quality. One acre is equal to two acres of sweet sorghum. The latter can be cut but once, the former twice with equal tonnage. (To do this will require good soil and ample irrigation, but it will do it). It has less sugar content than sweet sorghum, but must be classed as a saccharine. Do not waste another season by holding off. It is so much better than Sudan that there can be no comparison.

Mr. McConnell planted seed in June, 1919. August 15th, he made the first cutting. It stood ten to twelve feet high, fully headed. The tops are panicle shaped and, because of the multitude of stools, it easily leads other varieties in quantity of grain, none of which is lost in harvesting, which was done with an alfalfa mower. About October 1st it will be ready for sixth cutting, which, he says, may be done with the same mower by raising the blade.

### THE WONDER FORAGE PLANT

**The Crop for Soiling:** Last year we gave special recommendation to this for use in the silo because of the enormous production, but we have been assured by Mr. Pellisier of the Los Angeles Creamery, who tried it last year, that because of its constant growth of green stems it is unfitted for the silo, but for green feed it beats all sorghums.

The above picture indicates what it would be worth in green feed to the grower who has rich soil and an abundance of water. If you have these, we are sure there is no sorghum or other crop that will equal it in tonnage of rich valuable green feed.

This picture was taken at the dairy ranch of Mr. McConnell at Lankershim. This is the third season for this field and as you can see it is ahead of any sorghum for yield.

The last season was a severe one for that section. The late freeze destroyed all deciduous fruit and the walnuts, but this came through unharmed. Mr. McConnell says the reason lies in the fact that it stood about three feet high when the first frost got it. He let it stand dormant all winter and when the warm weather arrived he never saw anything send out new growth like this.

Stockmen, if you want a rich green feed, sow the Wonder Forage.

(Per lb. 40c) (10 lbs., \$3.50) postpaid. Write for quantity price.

#### READ

If you need forage for your horses, cattle or hogs Sorghum planted about April 1st will furnish you the best feed in the shortest space of time. One-half acre will feed four head of stock all summer if only enough is cut each day for one day's need. In this way one can cut continuously all summer. As much as 40 tons may be cut from one acre.

It may yield three cuttings a season, but it should be wilted before feeding as it is liable to bloat. The sugar it contains is very fattening. Steers and hogs can be brought to prime condition with no other feed.

#### WHEN TO HARVEST SORGHUMS FOR SILAGE

Many farmers are growing sorghum for silage. The question of when to cut it is perplexing some. The experience of farmers who have grown this crop for silage purposes is that it should be fairly mature before cutting. The stalks may look rather dry, but Sorghums should not be cut for silage until the seeds are hard. If cut too early the silage is apt to be acid and much inferior to silage cut at the right time.

### SACCHARINE SORGHUM

It is usually planted in rows 3½ feet apart, using from 5 to 8 pounds of seed per acre. Grows from 10 to 15 feet high.

This kind of Sorghum is distinguished from the Non-Saccharine because it is from these varieties that syrup is made.

Write College of Agriculture, University of California, Berkeley, California, ask for Circular No. 198, concerning syrup from sorghum.

But these Sorghums are more generally grown for forage because they will thrive well with little moisture, but on good soil with irrigation will produce 20 to 30 tons of silage per acre.

Address: University of California, College of Agriculture, Berkeley, Cal. Ask for Circular No. 167, also Bulletin No. 293.

At our demonstration of Sorghums the Silver Tip outclassed all other varieties for tonnage of green fodder. Texas Seeded Ribbon Cane was next in line. It is more branching than others.

**Silver Tip** The Sorghum for syrup. A local manufacturer of Sorghum syrup says: "The Silver Tip excels all other Sorghums in quantity and quality of syrup. A yield of 400 gallons per acre was the average obtained from my field. It will yield 20 tons of silage at one cutting.

(Per lb. 25c) (10 lbs. \$2.00) postpaid. Write for quantity price.

**Honey Sorghum** This variety was only recently introduced into California and at once proved to be very desirable because of the large yield of grain, as well as enormous growth of forage.

It is given special recommendation in the Farm Bureau Monthly, and has proven highly satisfactory to all who grow it.

(Per lb., 25c) (10 lbs., \$2.00) postpaid. Write for quantity price.

**Early Amber** The Early Amber has been grown in California for more than thirty years and has always proven entirely satisfactory. It grows twelve feet tall when allowed to mature, but it stools to a wonderful extent when cut about every four weeks.

(Per lb., 25c) (10 lbs., \$2.00) postpaid. Write for quantity price.

**Early Orange** Similar to the Amber except the color of seed which is lighter. (Per lb. 25c) (10 lbs. \$2.00) postpaid. Write for quantity price.

**Texas Seeded Ribbon Cane** Texas Seeded Ribbon Cane is one of the best crops that can be grown to use as ensilage on account of the enormous yield it makes per acre.

"Land is too valuable to get from 5 to 10 tons of silage when the same acres can yield 25 to 30 tons per acre with same expense. Others have received these results and any farmer can do the same." (Per lb. 30c) (10 lbs. \$2.50) postpaid. Write for quantity price.

### Japanese Sugar Cane

This is considered one of the most prolific of all sweet sorghums with the advantage of being a permanent source of supply. It produces no seed, but is propagated by planting joints like Napier.

It survives from year to year in Southern California.

It will prove profitable for any dairy, large or small.

Price of Joints, Per dozen, 75c Postpaid  
100 Joints, \$5.00 Postpaid.



Early Amber



# Non-Saccharine Sorghum for Grain and Forage

All prices are subject to market change.

If larger quantities are wanted by mail send the necessary postage. See inside front cover page.

A & M Selected Dwarf Milo Maize heads the list for grain, and Feterita a close second. These crops are given special mention because being drouth-resistant they grow very well in the southwest.

Non-saccharine Sorghums follow in choice for silage with Dwarf Milo in the lead because of the enormous yield of grain adding much to the value of the silage. Feterita yields more tonnage, but less nutritive value. These should be cut after the seed is hard, never when green.

For full information concerning Sorghums write College of Agriculture, University of California, Berkeley, California. Ask for Circulars No. 187 and 177. Also Bulletins No. 278 and 293. Also circular entitled: "Precaution Against Poisoning by Johnson Grass and Other Sorghums."

Write U. S. Department of Agriculture, Washington, D. C., for Bulletins No. 383, No. 698, No. 972, No. 827.



Actual Photograph A & M Dwarf Milo Maize  
6000 lbs. of grain per acre

## A & M Selected Dwarf Milo Maize

The King of all Sorghums for Grain. Is much preferred to the tall variety because it stools wonderfully and matures a large head of seed on each stool, producing 3500 pounds of grain per acre, and the stalk being shorter and having more foliage, makes it more desirable for fodder. Dairymen find that the cows will give more and richer milk when fed on it. It is the right crop to plant in young orchards because it will not shade the small trees.

**Higera** Similar in appearance to White Kafir but is more prolific; the grains are somewhat larger and are eaten more greedily by stock and poultry. It grows about six feet tall and stands upright. It is easily harvested and will yield four to six thousand pounds of grain per acre. It is very popular in Arizona and in the Imperial Valley. (Per lb. 25c) (10 lbs. \$2.00) postpaid.

## Can You Beat It

We received a letter from Luther Hylton stating that he harvested 8,120 lbs. of Dwarf Milo per acre.

This is a record breaker. We thought we had the limit at 6,000 lbs. We know of no other crop that will grow so much grain as Dwarf Milo.

**NOTICE READ THIS** **SCHROCK KAFIR** Wonderful for Fodder and Grain

Mr. B. F. Taylor of Los Angeles called our attention to this wonderful addition to the saccharine sorghums. He says that he harvested about 6000 pounds of grain from approximately one acre.

The stalks are green until frost, long after other sorghums have dried up. It excels as a pasture and makes excellent fodder. It will mature a crop of seed under conditions where other Sorghum will fail.

### ITS GREAT MERITS

The stalks are sweet. Cattle eat it down to the roots. Horses gnaw it to the last piece. Stock will leave alfalfa for it. Stock prefers it to the sweetest hay. Seldom yields less than 3000 lbs. per acre. Frequently yields as high as 6000 lbs. per acre. When planted early will produce two crops. It is of dwarf growing habit. Is very stalky. Very nutritious as a silage. Greater drouth resister than Feterita. Matures with exceptional uniformity. Fields are remarkable for even growth. Branch heads keep coming up until frost. Grown from 3½ to 5 feet high. Very easy to handle in harvesting. It never lodges or droops its heads. Better seed producer than any of the Sorghums. It is almost birdproof; they will not destroy mature seed. Sow 10 lbs. per acre. (lb. 30c) (10 lbs. \$2.50) postpaid; (100 lbs. \$15.00) f. o. b. here.

A & M Dwarf Milo Maize is grown from selected stock. For the past four years the heads were carefully selected in the field before harvesting. Now we have a strain that grows about four feet high and produces forty per cent more than it did three years ago under the same climatic and soil conditions.

It is highly recommended by the State Department of Agriculture for silage. (Per lb. 25c) (10 lbs. \$2.00) postpaid. Write for quantity price.

**Feterita** Of the many non-saccharine sorghums offered in this book—none have proven more popular from the start than Feterita, on account of its astonishing growth after it becomes well rooted. Every testimonial received expresses astonishment at its rapid growth.

Sow 12 pounds of seed per acre drilled two feet apart; by so doing it yields 5000 to 6000 pounds of grain per acre.

The grain has about the same feeding value as Egyptian Corn or Milo Maize; yields from two to three tons of grain per acre. The seed is more susceptible to cold than other sorghums, therefore should not be planted so early, nor should it be planted in cold soil.

The second growth stools wonderfully, producing several tons of excellent forage for pasture or for ensilage after the seed has been harvested. It thrives luxuriantly on soil so alkaline that field corn will not thrive. The heads are upright. Price (lb. 25c) (10 lbs. \$2.00) postpaid. Write for quantity price.

**Kafir Corn** Grows similar to the Milo Maize except the head is upright instead of hanging over like Milo Maize and Egyptian Corn. It will yield two to three thousand pounds of grain per acre. Sow 8 pounds of seed per acre drilled. Price (per lb. 25c) (10 lbs. \$2.00) postpaid. Write for quantity price.

**POISONING BY SORGHUM:** Many are reluctant to feed Sorghum for fear of poisoning stock, but we herewith give the facts:

When cut before flowering, it must be allowed to wilt in the sun for several hours before being fed to the stock as at this stage it contains a proportion of prussic acid and is liable to be poisonous. This disappears after the flowering stage is reached. This poisonous quality is more noticeable in the second crop, or, when after a period of drouth or frost when young it has become stunted. In the form of properly prepared silage or dry fodder, Sorghum is never poisonous, but it is dangerous to pasture or to feed green sorghum after it has been frosted or stunted; it should then be cut and dried or ensilaged.

### SMUT

The sorghum, kafirs and related plants are frequently attacked by a fungus which causes the destruction of the kernel. This is known as kernel smut.

Since the disease is carried on the seed, seed treatment is an effective remedy. It is sufficient to immerse the seed for a few minutes in a solution of formaldehyde and water. The solution used is one pint or one pound of formalin or 40 per cent formaldehyde, in 30 gallons of water.



## NON-SACCHARINE SORGHUM

### Continued

**Shallu** At our demonstration, Shallu tillered more than any other sorghum except the Wonder Forage Plant. The second growth was particularly fine. We would place Shallu at the head of the non-saccharine sorghums were it not for the destruction of seed by birds. It is hardly possible to harvest a crop of seed where birds are at all numerous. For green feed it is hard to excel.

Shallu will thrive luxuriantly in extreme Alkaline soils.

Both the green stalks or the ripe grain are greedily eaten by all kinds of stock from horses to chickens.

(Per lb. 25c) (10 lbs. \$2.00) Write for quantity price.

Mr. de Venelle: "I planted 15 lbs. of your Shallu and harvested 1900 lbs. of grain and 50 tons of fodder, without irrigation."

**Egyptian Corn** Like the preceding fodder crops, it is grown chiefly for the foliage to pasture when young, but yields largely of grain. The chief merit of these fodder crops is in their hardness to produce fodder and grain with almost no rainfall or irrigation. Sow eight pounds per acre drilled. Price (per lb. 25c) (10 lbs. \$2.00) postpaid. Write for quantity price.

**GUARANTEE**—Complaints that seeds are not of good germination might quite as often be attributed to other causes than the quality of the seed. There are many contingencies arising to prevent the best seed giving satisfaction, such as plowing too deeply, too shallow, in too wet or too dry a soil, insects may destroy the plants as soon as or before they appear, wet weather, cold weather, frosts, chemical changes in the seed bed induced by temperature, etc. For these reasons it is impracticable to guarantee seed under all circumstances, therefore the Aggeler & Musser Seed Company give no warranty, expressed or implied as to description, quality, productiveness or any other matter of any seeds, bulbs, plants or trees they send out, and they will not be responsible in any way for the crop. If the purchaser does not accept the goods on these terms, they are at once to be returned.

## GROW HEMP, RAPE, SUNFLOWER AND CANARY SEED

**Rape** Thousands of sacks of rape seed are imported each year, while it grows wild in some localities of Southern California. It is a profitable and easy crop to grow and harvest. If interested see us about it. (Per lb. 25c) (10 lbs. \$2.00) postpaid. Write for quantity price.

**Canary** This can be grown quite successfully here. It is just as easily grown as barley, and requires the same cultural treatment. Several carloads are imported each year into Los Angeles. The consumption throughout the United States is enormous. All of this could be grown in California. If interested, write or see us about it. (Per lb. 25c) (10 lbs. \$2.00) postpaid. Write for quantity price.

**Hemp** What has been said here of Canary is applicable also to Hemp. It is easily grown and requires about 100 days to mature a crop. It requires sixty pounds of seed to plant an acre, and should be sown in February. If interested, write or see us about it. (Per lb. 25c) (10 lbs. \$2.00) postpaid. Write for quantity price.

### WHY?

In the 1920 census, neither Broom Corn, Sunflower, Rape, Buckwheat, Canary, Hemp, Rye, Flax nor Millet are mentioned among the field crops of California, although we consume no small amount.

### Seeds For Canary Birds and Parrots

**Our Bird Seed Is Fresh** We buy it in car lots and mix it to proper proportions for healthy birds.

When you feed A & M bird seed you have no sick birds. (Per lb. 15c) (10 lbs. \$1.25) postpaid.

## Millet

Write for quantity prices on all varieties  
Culture same as for Sorghum. Sow from April 15th to Aug. 1st.

Millets would be grown more extensively were it not for the destruction by birds.

Therefore in order to get best results it is important that you plant the variety best suited to your purpose.

In order to acquaint ourselves with the characteristics of each variety that we may give intelligent advice we planted eleven varieties on our demonstration plot.

**Russian Millet, Hog Millet** If moisture is lacking in the shortest space of time, plant Red Russian, or Hog Millet; there is a very slight difference, and both may be pastured within six weeks; both mature seed within sixty days. It grows three to four feet tall. This seed may be harvested by heading and a second crop will mature within another thirty days. We recommend it for a quick temporary pasture. (25c lb.) (10 lbs. \$2.00) postpaid.

### Siberian Proso

Last season we offered seed of Siberian Proso but have omitted it this season for the reason that a trial at our demonstration garden showed it to be very similar to the Russian or Hog Millet which is sold much cheaper. See Russian Millet.

**Japanese Millet** Grows rapidly four or five feet tall, branches freely with liberal foliage, matures seed within seventy-five days, seeds freely. We recommend it for early pasture or to cut repeatedly for hay. (Per lb. 25c) (10 lbs. \$2.00) postpaid.

**White Wonder Millet** Grows four feet tall bearing large heads covered profusely with bristles which repels attacks by birds. It does not stool freely but branches to some extent. The stems are strong enough to support the heavy heads. We recommend sowing this variety to be grown for grain for small chicks. (Per lb. 25c) (10 lbs. \$2.00) postpaid. Write for quantity prices.

**Golden or German Millet** Grows three to four feet tall, branches freely and is enormously prolific of seed. The heads are covered with small bristles. Where birds can be controlled this is probably the best variety to grow for seed. Where moisture is scarce this is a very good variety to grow for pasture. (Per lb. 25c) (10 lbs. \$2.00) postpaid.

**Pearl or Pencilaria Millet** Grows eight to ten feet tall having heads eight to ten inches long, prolific of seed that is hard and not eaten greedily by any kind of stock. When young the enormous growth of foliage is succulent, but becomes coarse and objectionable and should be silaged before feeding.

We recommend this variety for green feed to cut when two to three feet tall. It is eaten greedily by all stock. (Per lb. 35c) (10 lbs. \$3.00) postpaid.



Plant Sunflower for Windbreak

Sunflower stalks are rich in potash, plow them under, do not waste them.

We import annually a carload of sunflower seed. Will not someone who has alkali soil try to grow it. We will agree to buy the seed at market price. However, you should consider the bird question when thinking it over.

**Mammoth Russian Sunflower** should be planted largely for seed or silage. It makes a good windbreak around your garden. It is a valuable plant that grows anywhere with little attention.

(Per lb. 25c) (10 lbs. \$2.00) postpaid. Write for quantity price.



# Grain and Field Crops

(See Sulphur for Fertilizer, Page 75)

When field seeds are desired by mail, add the required postage. See inside front cover page.

Write for quantity prices on all grains.

With our up-to-date facilities for cleaning all kinds of seed, we aim to have all field seeds as clean and free from fowl seeds as it is possible to make them.

Grain and other field seeds that pass in the open market as clean will often show ten per cent or more of broken grain, fowl seeds, chaff and dirt. Should our prices appear higher than others, you will find upon investigation that they are cheaper, because of the purity of the seed.

## Legal Weights—Pounds per Bushel

Barley .....	48	Clover Seed ....	60	Potatoes .....	60
Beans .....	60	Millet .....	50	Rye .....	55
Corn .....	56	Oats .....	32	Wheat .....	60

Write the Department of Agriculture, Washington, D. C. Ask for Farmer's Bulletin 939. Subject "Cereal Smuts and the Disinfection of Seed Grain."

## Treating Grain Seed for Smut

1. Dissolve 1 pound of bluestone (copper sulphate) in 4 gallons of water, which must be held in a wooden trough or tub.  
2. Dip the seed, contained in half sacks or butts, for three to five minutes in the bluestone solution. Shake out the air as the sacks soak.

3. Drain the sacks for fifteen minutes, and then dip in lime solution, prepared by slacking 1 pound of quicklime in 8 gallons of water. If the lime solution becomes blue, replenish with a new solution.

4. Dry thoroughly before storing.

When barley is treated with this solution, or when the lime dip is not used after the bluestone treatment, use 1 pound of bluestone to 5 gallons of water. Wash seed in water before dipping in bluestone where the lime dip is omitted.

Before dipping the seed in bluestone the smutballs must be washed out by pouring the wheat slowly into water and stirring it, when the balls may be skimmed off the surface.

## BARLEY

Sow 50 to 60 Pounds per Acre.

We aim always to have the best it is possible to procure. We cannot fix a price because of the fluctuations of the market. Bearded Barley, Beardless Barley and Bald Barley. Write for prices.

### TRY THIS

One rancher whose name we can not recall, told us that he sows his barley early and cuts it three times for hay; each time before the heads appear, and then allows it to head out for grain. Try it.

## MARIOUT BARLEY

If interested write the U. S. Department of Agriculture, Washington, D. C., for Farmer's Bulletin No. 785.

The Department of Agriculture says, in Bulletin 312, regarding Mariout:

Mariout barley introduced by the agricultural experiment station of the University of California, eventually will replace the common barley over large areas to which it is adapted, as already it has in Yolo and Solano Counties. Recent census by G. W. Hendry showing that 40,000 acres have been grown to Mariout by 400 growers in 25 counties of the state.

Mariout barley is leading common barley in yield this season by more than four sacks per acre. While not regarded as superior under all conditions, the value of Mariout has been well proved on dry light soils, in hot dry localities, and for late planting.

H. L. Roberts, of Beaumont, Riverside County, reports yields of 2½ sacks per acre from Mariout and 17 sacks per acre from common barley. Says Roberts: "I think Mariout is the coming barley, but believe I planted too early (November 10, 1919), and it headed out so quickly that it was frosted some."

C. V. Storm of Winchester, Riverside County, reports yields of 25 sacks per acre from Mariout and 14 sacks per acre from common barley.

Donald C. Ingersoll, of Encinitas, San Diego County, reports Mariout to have yielded 23 sacks per acre and common barley 15 sacks per acre, and concludes that Mariout is a wonderful crop for the light mesa soil of San Diego County.

Have in mind this is a dry land or desert plant, and should be planted late enough to bring the seed to mature after the rainy season is well by. Also, that it must not be expected to do well on cold marsh or damp land. (Per lb. 25c) (10 lbs. \$2.00) postpaid. Write for quantity price.

### Common Barley

The standard for California since old mission days, and has not been excelled by any variety since that time. It stools to a wonderful degree. If you are looking for clean heavy seed see us about it. Write for quantity price.

## OATS

Sow 70 to 100 Pounds per Acre

**Texas Red** (Rust Proof)—This is the only variety that is profitable to plant here. We have this on hand during the planting season.

Texas Red Oats—Grown in Texas.

Texas Red Oats—Grown in California. Write for prices.

We reclean all our Texas Oats to eliminate any Johnson Grass. It is important that growers give attention to the description in order that they will plant the grain best suited to their locality with regard to soil and climatic conditions.

## WHEAT

Sow 50 Pounds per Acre.

**Defiance** One big drawback against growing wheat in California has been rust, but this has been largely overcome by planting the Defiance variety where cool, moist weather conditions prevail. This variety is practically rust-proof.

Defiance is a late wheat and should be planted early and seeded thin. It is non-shattering and classed as a hard white wheat, and number one for milling.

**Sonora** This variety is recommended because of its large yield, earliness and drought resistance. It is susceptible to rust and inclined to shatter, but it has long been a standard variety in Southern California back from the coast. It is classed as a soft white wheat.

**Early Baart** Early Baart Wheat is the right variety for the interior valleys. Favorable reports have come from San Joaquin and Imperial indicating that this variety will yield 20 sacks per acre under dry conditions that would impair other crops.

More acreage will be planted to this variety because it is no longer an experiment; it has demonstrated that it will outyield other varieties for dry farming.

**Alaska** The wheat for enormous yield. The wheat to grow of the ocean, and it showed no rust. We recommend it to poultry men, but advise against growing it for milling. (Per lb. 25c) (10 lbs. \$2.00) postpaid.

## FLAX

**Russian Flax** will undoubtedly grow as luxuriantly in the Imperial and San Joaquin Valleys as it does in San Luis Obispo County, where it is at its best, and yields about two tons of seed per acre. Sow 40 pounds of seed per acre. It requires the same culture as barley.

(Per lb. 30c) (10 lbs. \$2.50) postpaid. Write for quantity price.

## RICE

If interested write to U. S. Department of Agriculture, Washington, D. C., for Farmer's Bulletin No. 688, and Circular No. 97. The variety now accepted as the best for California, is the Watari-bune, an early variety imported from Japan.

(Per lb. 25c) (10 lbs. \$2.00) postpaid. Write for quantity price.

Rice is now grown in such widely distributed territory throughout California that it is evident we have the climate and it is only a matter of local condition. Therefore, if you have clay hard-pan soil with duck-ponds and tule, just grade it so it can be flooded, and sow rice. Apparently the more alkali the better.

To grow rice successfully necessitates a pond or reservoir that the water may attain a higher temperature than is usual for fresh water, when applied to the rice field.

## RYE

Sow 60 Pounds per Acre.

Although Rye is sown largely for early winter pastures, green manuring and a limited acreage for the straw, it should be grown more largely for the grain, which is now in great demand. It had not been considered a profitable crop because of a small yield of about 1000 pounds per acre. But since the Rosen Rye has come into prominence the yield has increased 2000 pounds per acre, which together with the straw nets a good profit to the grower.

**Rosen Rye** The Rosen Rye was brought from Russia in 1909, by Mr. Rosen, a student from Russia attending the Michigan Agricultural College. This rye has been carefully kept 99% pure. Each head fills four complete rows of grain. The grains are much larger than of common rye and the yield per acre is 35 to 40 bushels while 15 bushels per acre is all that may be expected of common rye.

Another season has demonstrated that Rosen Rye is better than the common winter rye, therefore plant the best. (Per lb. 25c) (10 lbs. \$2.00) Postpaid. Write for quantity price.

## BROOM CORN

Grow more Broom Corn, but first make a contract with one of the factories to buy your crop. Unless you are familiar with growing it, first try a small acreage. Ask for our circular on Broom Corn.

**Tall Evergreen Broom Corn** This Broom Corn grows about eight to ten feet high, stands up well and is entirely free from crooked brush. The fibre is long and fine. Its great value is that it will not get red in the field before it is cut, but it is strictly a green variety of brush, commanding high price. It grows to perfection in all sections of Central and Southern California, back from the coast.

(Per lb. 30c) 10 lbs. \$2.50) postpaid. Write for quantity price.

**Dwarf Evergreen Broom Corn** is more desirable than the Tall in a locality where a strong wind prevails. It is also less trouble to harvest, while the yield is nearly the same as the Tall variety. Price (per lb. 30c) (10 lbs. \$2.50) postpaid. Write for quantity price.



## FIELD CROPS—Continued

## BUCKWHEAT

**Common Buckwheat** The soil is always moist where shaded with buckwheat. Sow the seed any time after April 1st, about 45 pounds per acre. Within ten weeks it will have matured. It will not survive the winter. Therefore it is necessary to sow once a year.

We highly recommend the growing of Buckwheat for reclaiming desert land, as it will start a growth and produce a crop under more adverse conditions than any other crop we know of. (lb. 25c) (10 lbs. \$2.00) postpaid. Quantity price on application.

## COTTON

**Pure Pedigreed Seed** All the seed we offer will have the approval of the proper horticultural inspectors. Therefore, you need not hesitate to order our seed. Write us stating what variety you want. We will then quote the price giving a pedigree of the seed offered, and the place where it was grown.

One grower says: "The only good kind to plant is short staple cotton. It is less expensive to plant, and smaller ginning cost; has a shorter maturing period, thus doing away with taking chances of frost catching the crop before real maturity. Do not plant long staple cotton near the coast."

We offer the following varieties: Lone Star, Durango, Pima. Write for price.

## TOBACCO

Grow your own smoking tobacco

Poultrymen, grow tobacco for your hen houses. If interested consult us about the culture. One ounce of seed is sufficient to plant an acre.

## Kavala

This is the finest of the Turkish Varieties. (Pkt. 10c) (oz. 50c)

**Pennsylvania Broad-leaf** The largest known variety. At our demonstration plot we grew leaves that measured 40 inches long, 23 inches wide. In Pennsylvania this variety developed leaves 44 inches long and 36 inches wide. It is the best variety to grow in the home garden for use in the chicken house or other insecticide purpose. Also if handled properly makes a good smoking tobacco for the pipe. (Pkt. 10c) (oz. 50c).

## Acclimated Havana

For quality this is the very best. (Pkt. 10c) (oz. 50c).

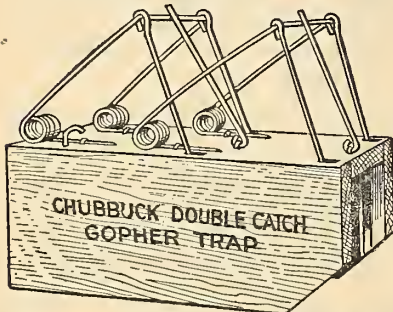
## Tobacco Culture in California

It is true we can grow tobacco just as luxuriantly in California as elsewhere. It has been repeatedly tried in various sections of the state but at no place did the experiment extend to the third year. California cannot cure a fine grade of tobacco. The cause may be our lack of rain to wash off the gum or it may be our dry atmosphere, or our lack of frost. However, a fairly good smoking tobacco is made by carefully drying the leaves in a shed.

## Gopher and Squirrel Exterminators

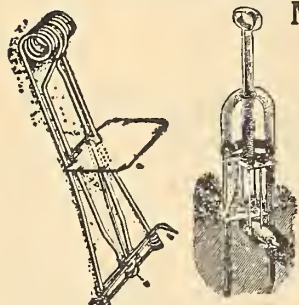
All Prices F. O. B. Los Angeles. Poisons Must Go by Express. Add Postage if Traps are to be Sent by Mail.

## Chubbuck Double Catch Gopher Trap



This is the latest and surest Gopher Trap on the market. Catches either large or small gophers. And very often when the gopher is working the dirt ahead of him the trap is sprung catching him by the outer springs. Price 75c.

## Macabee Gopher Trap



This is the most convenient gopher trap yet manufactured. It is easy to set, small and can be extended far down into the hole. Price postpaid, 30c.

**Box Gopher Trap.** This trap is used extensively by gardeners. Is easy to set and sure. Price by mail 40c.

**Easy Set Mole Trap** catches them going and coming. A child can set it with perfect safety. Price \$1.25 f. o. b. here.

Macabee Gopher Trap Easy-Set Mole Trap

## Gopher-Gas Balls

Are used by lighting and rolling into the burrows of the gopher, the same as the Gopher Candle. (5c each) (50c doz.) (Box of 125, \$4.35). Can be sent by mail.

## Squirrel Poison—Moore's

(Grain). A certain and specific destruction of gophers, squirrels, crows and mice. (Small size 60c) (Medium size \$1.20) (Gallon-size \$2.00) (5 gallon drums \$7.00).

## Out-O-Sight Mole Trap

This trap has been in use for a number of years and is the most successful Mole Trap patented. It is placed over the runway in such a manner that it catches the mole if he travels in either direction. Price \$1.15 by mail.



## Eureka Squirrel Exterminator

With the use of carbon bi-sulphide, this is the best and cheapest implement with which to eradicate the squirrel pests on your land. We can confidently recommend the use of this machine in vineyards, orchards, grain fields, pasture lands, etc. It is of simple construction, best galvanized sheet steel with bellows attached. The working of the bellows causes the carbon bi-sulphide in the machine to generate a gas, which is forced into the burrows of the squirrels, thus killing them instantly. The exterminator forces no liquid into the runs, only the gas, thereby saving 75% of the carbon bisulphide, over the old way of saturating balls of cloth or cotton. A colony of squirrels can soon destroy \$50.00 worth of vegetation. Price \$15.00. Weight, crated 12 lbs.

## Gopher Scent

Gopher Scent is the latest and most improved method of poisoning gophers and squirrels. The scent attracts the gopher and draws him to the bait. We have had some wonderful reports on Gopher Scent and feel that we cannot recommend it too highly.

(Small pkg. 50c)  
(medium size \$1.00)  
(15-lb. pkg. \$6.00)  
(85-lb. keg \$29.75).

## Swat the Pest

The damage done to Horticulture and Agriculture by squirrels and gophers runs into millions of dollars annually and often means ruin to the rancher to say nothing of the disappointment and aggravation to the home gardener. Swat the Pest.





# All Year Treatment Against Insects and Disease Enemies of Garden and Grove

## ROSES

**Rose Aphis** In spring and summer spray with solution twenty drops Black Leaf 40 to one quart of fish oil soap and water, or one part Kils-All to twenty parts of water.

**Rose Scale and Fungus** Spray with solution one part Spra Mulsion to ten parts water.

**Thrip** Spray with one part Kils-All to twenty parts water.

**Mildew** Spray with Fungi-Bordo. Follow directions on package.

## HOUSE PLANTS

**Fertilizing** Apply a teaspoonful of A & M Plant Food once a week. Do not allow the plant to stand in water. Give it plenty of fresh air and sunshine.

**Fern Scale** Spray with Kils-All. The best time is during the cool of the evening. Do not set the plant in the sun immediately after spraying.

**Earth Worms** Apply Magotite.

## VEGETABLES

**Asparagus Rust** Spray with Dry Lime Sulfur or Fungi Bordo. Use according to directions on package.

**Scant Foliage** Indication that soil is worn out. Apply A & M Lawn and Garden Fertilizer.

**Green Worm** On cabbage and cauliflower. Dust with Hammond's Slug Shot.

**Cut Worms** Mix 1 lb. Paris Green in 10 lbs. of bran. Add one quart black strap molasses and two lemons chopped fine. Mix the whole to a crumbly mass and scatter in the field.

**Grass Hoppers** Same as for cut worms.

**Mildew on Peas** Spray with Fungi Bordo. Follow directions on the package.

**Potato Diseases** For scab and other fungi on potatoes, dip the tubers in a solution of one pint formaldehyde and 25 gallons of water allowing them to soak two hours. See potato page 42.

**Tuber Moth and Blight** Moths enter the soil through cracks. Keep the potatoes well hilled and spray with Tuber Tonic.

**Tomato Worms** Pick off by hand or before fruit is half grown. Spray with Arsenate of Lead solution three to four level tablespoonfuls to one gallon of water.

**Tomato Blight** Spray with Fungi Bordo, using according to directions on the package.

**Slugs** Spray with Kils-All or dust with Hammond's Slug Shot.

**Melon Blight** Spray the hill freely with Fungi Bordo so that the liquid will follow the stem several inches below the surface. This should be done as a precaution as well as for a remedy.

**Nematode** Plant the infected land to Corn, Barley or Grass for three seasons. Stir the soil deeply and keep free from weeds. Apply Toro Sulphur two sacks per acre or 1 pound per 100 square feet.

**Root Maggots** Use Mag-O-Tite. Follow directions on the package.

**Earth Worms** For earth worms and maggots in lawn or garden use Mag-O-Tite. If your lawn is sick it is probably due to worms and maggots.

**Cabbage Aphis** Spray with solution of 20 drops Black Leaf 40, 2 oz. Fish Oil soap to one quart water. Apply once or twice weekly.

**Cucumber Beetle** Spray with S. W. Dry Arsenate of Lead or dust with Nico Dust.

**Onion Thrip** Spray with Kils-All. Follow direction on package.

**Melon Aphis** Same as cabbage aphis or spray with one part Kils-All to twenty parts of water.

## CITRUS TREES

**The Scales** For black, red, yellow, purple, greedy and soft scale spray with Kils-All or Spra Mulsion  $\frac{1}{4}$  lb., Dry Lime Sulfur  $\frac{1}{4}$  lbs., water 10 gallons.

**Mealy Bug** Use Kils-All according to direction on the package.

**Red Spider** Use Kils-All.

**Aphis** Same solution as for cabbage aphis.

**Gum Disease and Scaly Bark** Apply Fungi-Bordo to the lower branches, trunk and surface roots at base of tree.

## DECIDUOUS TREES

**San Jose Scale** Also Leaf Blister Mite, Peach Leaf Curl and Red Spider. Spray dormant trees with solution of ten tablespoonfuls of Dry Lime Sulfur to one gallon of water. For summer spraying use 3 tablespoonfuls to one gallon of water.

**Pear Blight** Cut out every appearance of the disease on twigs, branches or trunk well down into healthy wood. Disinfect the shears after each cut.

**Woolly Aphis** Also Black Peach Aphis, spray with solution 1 oz. Black Leaf 40,  $1\frac{1}{2}$  lbs. Fish Oil Soap to seven gallons of water. Soak the same solution into soil over the roots.

**Peach Borer** Dig the borer out with a sharp pointed knife and cut the tree back heavily.

**Codling Moth** After first bloom has fallen and before the calyx cups are closed spray with solution of one pound S. W. Arsenate of Lead to one gallon of water.

**Climbing Insects** To prevent ants and other insects from entering trees, apply Tree Tanglefoot.

## MISCELLANEOUS

**Ants** Apply Watch-It-Get-Em Ant Powder in the hill for large red ants and along the run of the small house ant. Watch-It-Get-Em powder is non-poisonous and may be used in the house to eliminate ant troubles.

**Mealy Bug** This insect may appear in vegetables, shrubs or trees. Use Kils-All.

**Argentine Ants** Use Kils-All according to directions on package.

**Snails** Spray with Kils-All or dust with Slug Shot.

**Flies** For flies on cattle or horses spray the animal with Dr. Hess Fly Chaser.

**Chicken Lice** Dr. Hess Instant Louse Killer.

**Gophers** Use Gopher-Scent. They like it and it does the work.

**Ground Squirrels** Gas Balls are more effective than any remedy we know of.

**Moles** Rittenhouse Mole Trap.



# SHERWIN-WILLIAMS

## INSECTICIDES

WILL INSURE YOU BETTER  
FRUIT & VEGETABLES



All prices are f. o. b. here; when ordered sent by mail add postage. See parcel post rate inside front cover page.

**Notice** Poisonous insecticides cannot be sent by mail. Many insecticides are not dangerously poisonous. Some are in liquid form, put up in tins or glass; to send these by mail, extraordinary care must be given to the packing, which necessarily adds much to the weight and therefore to the postage which may seem out of proportion to the purchase price.

On bulky items where the postpaid price is not mentioned, we prefer to send by express, and shall do so unless requested to do otherwise.

If wanted by parcel post, add sufficient money to cover postage. Estimate liquids plus package at the rate of 4 pounds to the quart, or 14 pounds to the gallon. See parcel post rate on inside of front cover page.

Prices fluctuate and are subject to market changes.

"To successfully grow fruit and vegetables, it is necessary to be prepared at all times to combat and control the destructive insects and diseases which are classified in three distinctive classes: namely, leaf-eating and chewing insects, leaf-sucking insects and fungus diseases.

Different control measures are used in combating each type of insect and disease as above mentioned.

Complete information from our best authorities on this subject has been secured and may be obtained in book form free. Write for our S. & W. Sprayers Manual.

Owing to the necessity of combating against all kinds of insects and plant diseases we have given more careful instructions than in previous years.

See our insecticides on pages 70 and 71 and our sprayers and dusters on pages 72, 73 and 74. You will find them to suit every purpose for the back yard gardener or for the market gardener, orchardist, rancher or stockman. Sprayers to suit every occasion.

### Sherwin Williams Dry Powdered Arsenate of Lead

Because of its unusual lightness, stays thoroughly in suspension during spraying operations, thus giving the spray uniform strength. May be used as a wet spray or dusting. For the control of Codling Moth, Cabbage Worms, and all leaf-eating and chewing insects.

**Directions:** One to one and one-half pounds to fifty gallons of water. Or three or four level tablespoonsful to one gallon of water. For dusting use with five or six parts powdered Lime. (1/2 lb. 40c) (1 lb. 70c) (4 lbs. \$2.40). Cannot be sent by mail.

### Sherwin Williams Fungi-Bordo (Bordeaux Mixture)

In powdered form, mixes perfectly with cold water. For peach, tomato and potato blight and all fungus diseases.

**Directions:** Use seven to nine pounds to fifty gallons of water. Or seven to eight tablespoonfuls to one gallon of water. (1 lb. 45c) (5 lbs. \$2.00). Write for quantity price. Cannot be sent by mail.

**Sherwin Williams Dry Lime-Sulfur** The use and success of Lime-Sulphur solution is known to practically every fruit grower in the country. Sherwin-Williams Dry Lime-Sulfur is standard Lime-Sulfur solution in dry powdered form—the first and only one of its kind on the market. It has all the advantages of the liquid material, but eliminates the disadvantages of heavy freight charges, loss from evaporation and leakage; also the inconvenience of handling a heavy and bulky barrel. Its effectiveness has been proven by a number of years of use by large fruit growers and practically all Experiment Stations.

It will control San Jose Scale, Leaf Blister mite, Peach Leaf curl and red spider.

**Directions for use in spraying dormant trees.** Use from ten to fourteen pounds to fifty gallons of water or eight to ten tablespoonfuls to one gallon of water. For summer spraying against fungus diseases on all stone fruit, use two and one-half to three pounds to fifty pounds of water. (1 lb. 35c) (5 lbs. \$1.10) (10 lb. pkg. \$2.00) Write for quantity price. May be sent by mail.

**Sherwin Williams Paris Green** has by years of use proven its quality. It has become the standard Paris Green everywhere. It is light and fluffy, insuring good suspension in the spray tank and thorough covering of the foliage; contains approximately 56% arsenious oxide and less water soluble arsenic than is allowed by law. It is one of the safest and most effective Paris Greens on the market today.

**Directions for use:** Four to six ounces to fifty gallons of water. Or two teaspoonfuls to one gallon of water. For cut worms and grasshoppers add one tablespoonful of Paris Green to ten pounds of bran and spread about the base of the plants. It is always well to add 1/4 lb. Paris Green to each barrel of Bordeaux when spraying tomatoes. (1/4 lb. pkgs. 40c) (1/2 lb. 70c) (1 lb. 90c). Write for quantity price. Cannot be sent by mail.

### Sherwin Williams Pruning Compound

Will aid nature in healing wounds without retarding the growth. Has special disinfectant qualities. The compound is ready for use. Cover all cuts at once; use stiff brush or cloth to apply. (1 qt. 75c) (1 gal. \$2.25) May be sent by mail.

For Aphides and All Sucking Insects Use

**"BLACK LEAF 40"**

**Nicotine Sulphate—40% Nicotine**

1 oz.—\$ .35—makes 6 gals. spray.  
1/2 lb. tin—\$1.25— " 40 to 120 gals. spray.  
2 lb. tin—\$3.75— " 160 to 500 gals. spray.  
10 lb. tin—\$15.50— " 800 to 2500 gals. spray.

See sprayers and dusters pages 72-74.



## INSECTICIDES—Continued

**P. S. C. Rosin Spray** Effective for black, red, yellow, purple and citricola scale mealy bugs, wooly aphids, black peach aphids and plant lice. Recommended by the Horticultural Commission. Dissolve 1 lb. of the spray in 2½ gallons of either hot or cold water and thoroughly mix before spraying it on trees or plants. (1 lb. can 30c) (2 lbs. 45c) (4 lbs. 75c) (40 lb. can \$5.00)

**Tobacco Dust** For aphids and small insects in plant ledes and poultry houses. (1b. 20c) (10 lbs. \$1.50) Cannot be sent by mail.

**Tobacco Stems** For fumigating green-houses and chicken nests. (10c lb.) (by mail 20c per lb.), Write for Quantity price.

**Tree Tanglefoot** (Paste). This is a sticky substance applied to the bark of trees to protect them from all climbing insects and also rabbits. It will prevent ants from entering the trees. One application is good for three or four months. (1b. cans 50c) (5 lb. \$2.25) (10 lb. \$4.25).

**Whale Oil Soap** (Fish Oil). This is not only an excellent insecticide for killing plant lice and fungus growth, but should be mixed with most all liquid sprays as it causes the spray to adhere much better to the leaves. (1 lb. 25c) (5 gal. cans 18c lb.) May be mailed.

**Blue Stone** (Sulphate of Copper). Applied in time it will prevent mildew and all fungus diseases. Also prevents smut on barley and wheat, by soaking seed to be planted in a solution of 1 lb. to 6 gallons of water for ten or fifteen minutes. (Per lb. 25c) Write for quantity price. May be sent by parcel post.

**Buhach Powder** (½ oz. package 20c) (3 oz. packages 40c) (6 oz. packages 70c) (12 oz. packages \$1.25). May be sent by mail, postage extra.

**Carbolic Acid, Crude** (1 pt. cans 40c) (1 qt. cans 60c) Cannot be sent by mail.

**Carbon Bi-Sulphide** (Liquid). For exterminating go-phers, squirrels, ants or any vermin that live under the ground. Saturate cotton or other absorbent, put deep in hole and close all openings. For ants, pour into the openings. For weevil in grain, put grain in airtight chamber; for 100 cubic feet of space use ½ pint Carbon Bi-Sulphide, saturate it into any absorbent so that it will evaporate quickly; close the chamber tightly for three or four hours. It is not necessary to remove the grain from the sacks. Notice: It is very combustible. Do not smoke or have fire near while handling. (12 oz. 40c) (25 oz. 60c) (1 gal. \$2.00) Cannot be sent by mail.

**Formaldehyde** (Liquid). For destroying the germs of smut on grain, scab and rhizoctonia on potatoes. Dilute one pint in forty gallons of water, submerge potatoes one and one-half hours and grain only long enough to moisten it. (½ pint 75c) (1 pint \$1.35) (1 qt. \$2.00) Cannot be sent by mail.

**Hammond's Slug-Shot** (Powder) Destroys bugs, insects and worms on melons, lima beans, cucumbers and tender plants. Also for use on asters, roses and flowering plants. Easily distributed by duster or in water by spraying 1 lb. to 10 gallons of water. Not injurious to persons or animals. May be sent by mail. (1b. 20c) (5 lbs. 80c) Postage extra.

**Kils-all** Is a new insecticide which has been thoroughly tested for several years and by thorough experiments we have found it to be the best remedy we have ever tried for Mealy Bug, Thrip, White Fly, Wooly Aphids, Red Spider, Soft Shell Scale and Black Aphids. It may be used on the most tender greenhouse plants, according to directions, without burning the foliage. We consider this insecticide well named and believe it to be the best all-purpose insecticide we have to offer. Proportions for use: For Aphids on all kinds of Roses, Chrysanthemums, greenhouse plants, etc., use one part Kils-all to thirty parts of warm water. For Thrip on Roses, one part Kils-all to forty parts of warm water. For scale of all kinds on Ferns, Fruit Trees, etc., one part to twenty-five parts warm water. For Mealy Bug of all kinds, one part to twenty parts warm water. For Mildew, one part to thirty parts warm water. Water in which you can hold your hand comfortably is about the right temperature for mixing. Never spray plants during the period of full sunshine, preferably during the evening. After opening the can thoroughly mix the contents before placing the same in warm water. (½ lb. cans 50c) (1 lb. cans 85c) (5 lb. cans \$3.00) (40 lb. cans \$20.00) May be sent by mail.

**Lime Hydrated** This is a fine powdered Lime, slacked by steam. Mixed with water, this makes an excellent preparation for whitewashing and disinfecting of all kinds. (4 lb. cartons, 25c each) (80 lb. sacks \$1.50). May be sent by mail, postage extra.

**Ant Powder** Watch it get 'em. (¼ lb. 25c) (½ lb. 50c).

**Wire Worms** Regarding the article in the June 4 issue on page 746, "Wire Worms," signed Subscriber, Anaheim:

"Wire worms have positively been eradicated by the use of two sacks of Toro brand agricultural sulphur per acre, in both bean and melon fields. Potato scab has also been prevented by this soil application. It is beneficial to apply to the soil at the time of planting in order to have live sulphur around at the time of germination of the seed and growth. Sulphur applied to the soil in the fall will greatly increase the crops, but would likely not affect the wire worms in the summer time.—P. M. Paulson, San Francisco.

Mr. Stahl of Van Nuys tried the New Jersey method of sulphuring the ground to prevent scab. It gave fairly good results, and he will experiment further. He used 200 pounds of sulphur to the acre. He drilled it in like fertilizer.

**Sulphur** As an insecticide is used for the control of Red Spider and Mildew. Is used extensively on vines and vegetables. The Sulphur we have to offer is the purest that money can buy. We offer three brands, but would recommend Anchor Brand for dusting, Diamond Brand for Bordeaux paste, the Toro Brand for fertilizer and to destroy any germs of Microzoa that may be in the soil:

Anchor Brand—110 lb. sack, \$5.80; 5 sacks lots, \$5.60.

Diamond Brand—110 lb. sack, \$4.15; 5 sack lots, \$4.00

Toro Brand—110 lb. sack, \$5.50; 5 sack lots, \$5.25.

F. o. b. Los Angeles.

### Anchor Brand

**For Dry Dusting of Trees, Vines, Etc., Bleaching Fruit, Etc.**



It has been proven and so recommended by the University of California that if you sulphur your grape vines and orchards six times they will not be affected by Mildew or Red Spiders and rust.

Anchor Brand Velvet Flowers of Sulphur, packed in double sacks, is the fluffiest and purest sulphur that money can buy; the best for vineyards; the best for bleaching purposes, leaving no ash.

Try our new brand ventilated Sublimed Sulphur—Impalpable powder, 100% pure, in double sacks, for dry dusting and making paste Sulphur.

(Per 110 lb. sack lots \$5.80) (5 sack lots \$5.60) f. o. b. Los Angeles.

### Diamond S Brand

**For Lime-Sulphur Solution**

For Lime-Sulphur Solution, use our Diamond "S" Brand Refined Flour Sulphur. We can furnish you this sulphur at such a low price that it would pay you to mix your own solution and net you a profit equal to the amount paid out for labor in spraying your orchard, even if you pay your men \$4 per day for making the solution and applying same.

Send for circulars No. 6, No. 7, and No. 8, for information from prominent growers and horticultural commissioners; and booklet "The Truth About Sublimed Sulphur." (Per 110 lb. sack \$4.15) (5 sack \$4.00).

Toro Brand (See Fertilizer) Page 75

## NICO DUST INSECTICIDES

THESE PRICES ARE F. O. B. LOS ANGELES

These preparations are in the form of a dry powder or dust, which is applied with a blower, thus affording a material saving in time, labor and expense. The discomforts as compared with liquid spraying are practically none.

"NICO DUSTS" are carefully prepared and have made possible the control of a large number of insects which have heretofore been difficult to eradicate.

Various pests require various strengths of "Nico Dusts" to effect the proper killing, and each mixture is prepared from proven formulae which is the result of several years of research work. We are prepared to supply large quantities on short notice and our stock is always fresh.

### Nico Dust No. 5

Is made especially to exterminate peach aphid, pear aphid, prune, onion and orange thrip and similar insects. (5 lb. \$1.50) (25 lbs. \$5.25) (100 lbs. \$18.50).

### Nico Dust No. 6

A very strong mixture made especially for cantaloupe aphid. Large quantities of No. 6 are used successfully in the Imperial Valley and other melon growing districts. (5 lbs. \$1.65) (25 lbs. \$6.25) (100 lbs. \$22.50).

### Nico Dust No. 10

Especially prepared for aphid, garden beetle, cucumber beetle, cabbage worm and other similar insects which are difficult to eradicate. (5 lbs. \$2.50) (25 lbs. \$8.00) (100 lbs. \$30.00).

### Nico Garden Dust

Prepared for the home garden where fruit trees, roses, sweet peas and general garden truck are grown. For the control of insects, mildew, leaf cutting insects and other pests commonly found in the garden. (8 oz. carton 40c) (2 lb. pkg. \$1.25) (5 lbs. \$2.50).



## Swat the Bug

### Crop Losses Amount to Millions

The Plant Disease Survey Office of the U. S. Department of Agriculture has just made public figures on crop losses in 1920 in the United States, caused by plant diseases:

Corn—220,862,000 bu., or 6.39% of the year's crop.  
Sweet Potato—39,150,000 bu., 25.8% of the crop.  
Dry Beans—404,000 bu., 4.3% of the crop.  
Peaches—10,505,000 bu., or 19.4% of the crop.  
Apples—47,474,000 bu., or 16.5% of the crop.

The yield of sweet potatoes was reduced 1,657,000 bu. in North Carolina, due to Black Rot; in Mississippi, 1,654,000 bu., and in Alabama, 1,180,000 bu., while Stem Rot caused a reduction of 538,000 bu. in Virginia, 511,000 bu. in New Jersey, and 236,000 bu. in Alabama.

Anthraxnose was the cause of a loss of 155,000 bu. of dry beans in New York State, and in Michigan 111,000 bu. were lost from bacterial blight.

Fusarium Wilt of tomatoes is reported as responsible for a 65% reduction of the crop in Georgia, 25% in Louisiana, 20% in Alabama, while Septoria Blight caused a reduction in Maryland, 30% in Virginia, and 15% in Kentucky, while somewhat smaller reductions in other tomato growing states.

After reading these figures can you doubt the necessity for every orchardist, rancher, gardener, and every one having even a small garden, being prepared to destroy insects and disease that rob you of such a large per cent of your crops.

Look over our list of insecticides and sprayers you will find the things best suited to your purpose.

**SWAT THE BUG.**

## SPRAYERS FOR EVERY PURPOSE

### A & M Superior Utility Sprayer



Utility Sprayer

This sprayer is made of heavy galvanized iron or brass, all seams sweated and riveted, tested at 95 lbs.; tank equipped with standard hose connections, capacity 3½ gallons. The pump cylinder is made of heavy brass tubing, with bronze ball check valve contained within a thin brass cage, which does not deteriorate like rubber. The nozzle is made of brass and can be adjusted to be operated at any desired distance by three-eighth inch connecting rod. This sprayer is especially adapted for spraying trees, poultry houses, out-buildings, barns, and vegetables of all kinds. By reason of the ball bearing check valve, any insecticide or acid may be used safely in this pump without danger to the valve. This pump is the dairymen's friend. Packed, one in a box, shipping weight 10 lbs. Price: galvanized, \$8.00; brass, \$11.00 f. o. b. Los Angeles.

### Utility One-Gallon Sprayer



Most convenient size compressed air type sprayer ever put on the market. Especially adapted for sanitary work, disinfecting, small gardens. Tank, 6¼ inches in diameter by 8½ inches high. Same in design as the No. 10 tank. The pump cylinder is of heavy brass tubing, 1¼ inches in diameter, has a brass ball check valve enclosed in a brass cage. Price, No. 185, galvanized, \$5.00; No. 190, brass, \$7.00.

## Utility No. 40 Portable Outfit

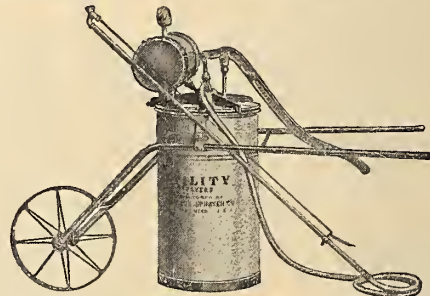
Very useful for painting, whitewashing, and disinfecting warehouses, factories, barns, trees and greenhouses.

TANK larger than most similar outfits, made of heavy galvanized iron. A fine strainer at suction end prevents sediment getting into working parts of pump.

FRAME substantially built of steel, well braced and balanced.

Equipment:—Capacity 18 gallons; 10 feet ½ inch 5-ply spray hose, 4-foot spray rod; 1 patented Utility Angle Nozzle No. 65. Shipping weight complete, crated 85 pounds.

No. 40—Portable Outfit. Price, each \$35.00 f. o. b. Los Angeles.



### UTILITY NO. 40A PORTABLE OUTFIT

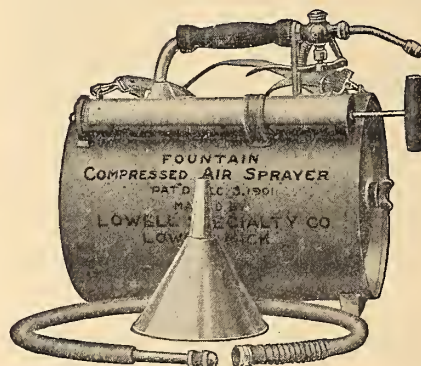
Same in construction as our No. 40, but equipped with an air pressure tank mounted on pump casting. This makes a one-man outfit. By obtaining 250 pounds pressure considerable spraying can be done without pumping.

Equipment same as with No. 40.

Shipping weight, complete, crated, 100 pounds.

No. 40A—Portable Outfit. Price each, \$45.00 f. o. b. Los Angeles.

## Lowell Compressed Air Sprayer



Lowell Compressed Air Sprayer

Has stood the test fifteen years. The tank is made of heavy steel or brass, holding three gallons. The discharge pipe extends down through the tank to the bottom of the solution. The pump is located on the outside of the tank and the valve does not come in contact with the insecticides or acid used in spraying. This is the all-purpose sprayer. Price: galvanized \$8.00, brass \$11.00, f. o. b. Los Angeles. Weight 20 lbs.

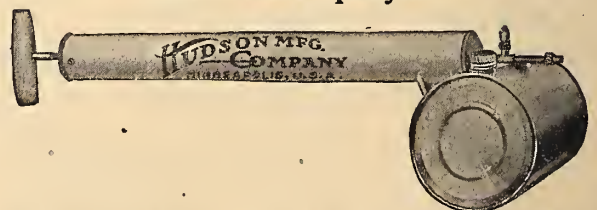


### A & M Superior Sprayer

Holds 1 quart. Weight, crated, 3 lbs. Price 60c.

Little Midget holds 1 pint; is just the sprayer for home use. Price 45c prepaid.

## Continuous Sprayer



This atomizer is what the name implies, by means of a small air chamber attached there is sufficient pressure to keep the spray continuous while the operator is making the back stroke of the arm, during which time other atomizers are at rest. Tin. \$1.00.



## SPRAYERS—Continued

### Perfection Compressed Air Pump

The tanks are made of heavier metal than has ever been used in sprayers of this kind, making the tank practically unbreakable. The pump is 1½-inch seamless brass tubing with a brass valve, and is sealed into the top of the tank with heavy threads following the construction used in the best makes of fire extinguishers.

This sprayer will handle Whitewash, Water Paints, Bordeaux Mixtures, etc., perfectly.

For whitewash and all heavy mixtures it is necessary to use a "W. W." Cap in nozzle, which is furnished with sprayers. These sprayers are made in galvanized steel or brass as ordered. Equipped with 4 feet of hose. Weight, packed, 14 lbs.

Galvanized Steel .....\$8.00  
All Brass .....\$11.00  
3 ft. brass extension rod .....\$1.00

F. O. B. Los Angeles



### Utility Barrel Pumps

Cylinder is made of heavy brass, 2½ inches in diameter. Brass plunger can be adjusted without removing, having special treated cotton wick packing to prevent corrosion by chemicals. All working parts that come in contact with liquids are brass. Bronze ball valves easily removed. Pressure of 150 to 200 pounds can be maintained.

In complete outfits we furnish our patented Utility adjustable nozzle which always gives control of spray at nozzle end. A fine strainer avoids sediments getting into working parts.

Utility No. 50-A—2½ in. cylinder complete as shown in cut. Without Barrel—Price \$22.50, f. o. b. here. Weight crated 50 lbs.

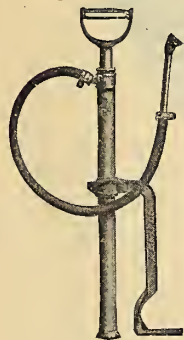
Utility No. 90A, 1½ in. cylinder without barrel, \$17.00.



### Bucket Pump, No. 95

All working parts of this pump that come in contact with spray solutions are brass. By removing variable disc a straight stream can be had for washing windows, automobiles, etc., in addition to general spray purposes.

This is a double action pump, the air chamber being provided by the hollow plunger rod of ¾-inch tubing. Body of pump is 1½ by 19 inches, made of heavy seamless brass tubing. Pump is equipped with 2 feet of ½-inch, 5-ply hose and 12 inches of ¼-inch pipe and our No. 80 angle service nozzle. The brass parts are highly polished and laquered; the handle and foot rest are painted a rich carmine red. Wt. 6 lbs. Price \$6.00.



Utility No. 95

I appreciate your catalogue so much. It has helped me a great deal this year and I expect more help from it next.

MRS. L. W. FRICK.

### Wagon Spray Boom



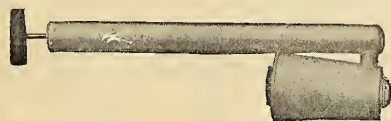
This boom can be used with any good barrel pump, but gives the best satisfaction in connection with our No. 50A. It is light, strong and adjustable to every position. Will throw spray at any angle and can be folded so that you can drive thru narrow

gates and can be set to spray between rows of grape vines, etc., two nozzles spraying to the right and two to the left. One barrel of liquid will cover three acres. A ten-year-old boy can operate it. The cheapest and best method of spraying a field

If this catalog has helped you tell your neighbor about it.

## POWDER DUSTERS

Many insects and diseases can be destroyed more conveniently with a powder. For that purpose we have a complete line of dusters to suit your particular convenience.



### LOWELL'S POWDER SPRAYER

A successful hand sprayer for sulphur and all powder disinfectants. Capacity one quart. The cheapest and best small powder sprayer on the market. Just right for home gardens. Price \$1.00. Wt. 3 lbs.



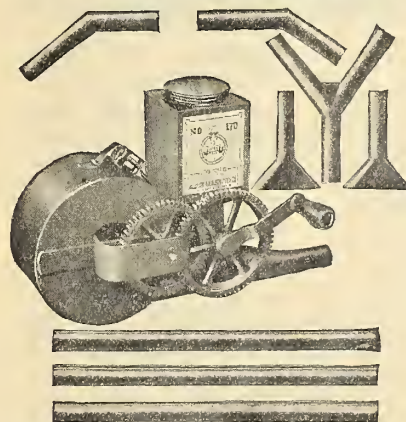
Sulphur Duster  
½ gal. 60c; by  
mail 70c



Jumbo Powder Blower

To eradicate fleas, bedbugs, etc., use this blower. Also excellent for dusting house plants. By mail 50c.

### Utility Duster No. 170



Used for the application, in dry form, or spray chemicals, as Arsenate of Lead, Paris Green, etc. Made of heavy tin enameled red; iron and brass machine cut gears used throughout, and so arranged as to give a steady and uniform delivery. Fan is 3½ by 6½ inches, larger than on other dusters of similar construction. The hopper holds more than a quart. The position of feed valve in bottom of supply hopper is shown by indicator on fan box.

The duster exclusive of the tubes is 14 inches long, 6 inches wide and 9½ inches high; it weighs with complete equipment about 6 pounds. It is provided with three 1-inch by 14 inch tubes, two 45-degree and one Y, or two-way connection and two large nozzles with wide spread, and an adjustable carrying strap. All points in the pipe line lock securely, no loose joints as on other makes of dusters.

Shipping weight, 8 pounds. Price \$13.50 f. o. b. here.



## POWDER DUSTERS—Continued.

## DESTROY THE ANT

The Department of Agriculture, Washington, D. C., has given the remedy, now make a combined effort to DESTROY THE ANT.

There are probably only a few colonies of ants on your premises. It would require a very small quantity of poison to destroy them.

**Ant Poison** Write Department of Agriculture, Washington, D. C., for Bulletin 740, in which appears the following formula for making Ant poison:

Granulated Sugar 15 lbs., water 7½ pints, Tartaric Acid (crystallized) ¼ oz. Boil all these ingredients together slowly for 30 minutes and allow them to cool. Then slowly dissolve ¾ oz. Sodium Arsenite (Na As O<sub>2</sub>) in ½ pint hot water. Allow this to cool, then add the syrup stirring thoroughly. Add 1½ pounds of pure honey to the syrup and the mixture is ready.

We made some of this ant poison, carefully following the formula, and applied it by setting saucers or other small containers near the home of the ant or across their runway, and within a week our garden was clear of ants. Not an ant in the house all summer, nor on the trees, but it required watchfulness and application of poison whenever they reappeared.

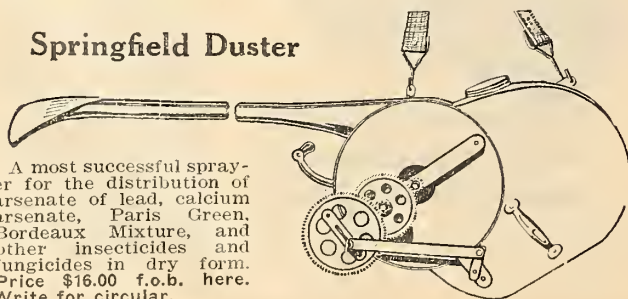


Nico Garden Duster

This is a medium-sized duster for use in the home garden. It is very effective in applying Nico Garden Dust in places that are difficult to reach with any other duster. If you have any dusting at all to do this little gun will please you. (Each \$1.00) f. o. b. Los Angeles.

## Springfield Duster

A most successful sprayer for the distribution of arsenate of lead, calcium arsenate, Paris Green, Bordeaux Mixture, and other insecticides and fungicides in dry form. Price \$16.00 f.o.b. here. Write for circular.



## The American Beauty Duster



The American Beauty in action

This illustration shows the American Beauty Duster in action. It is the best dry powder duster on the market for orchard, vineyard, garden or field. Because of its bellows capacity it can be used where no other knapsack sprayer could possibly reach.

Its spiral agitator and fine screens cause it to deliver a finer dust than any other machine, hence it is more thorough and economical.

It is built on correct principles and has been used under the most severe conditions, with remarkable success. Our hundreds of satisfied customers are our best advertisement. Standard size, wt. 14 lbs. \$20.00 f. o. b. Los Angeles.

## Feeny Dust Guns



A mechanically perfect duster which emits powder in clouds of right consistency from any position and in any direction, downward, upward or horizontal. (Price \$3.50) f. o. b. Los Angeles.

I received your Magotite that you sent me. It is a very good thing and I have tried it on the radish. Now the radishes are growing fine.

ROBERT Y. HAMAURA.



## FERTILIZERS

### WRITE FOR QUANTITY PRICES ON ALL FERTILIZERS

The necessity for using fertilizer is more and more apparent. The gardener has learned it is not profitable to economize in the use of fertilizers. Scientific farming teaches us that fertilizers must be chosen and applied intelligently. Therefore we advise that you write the College of Agriculture, University of California, at Berkeley, Cal., for Bulletin No. 272 and 288 and Circulars No. 170 and 111. Write United States Department of Agriculture, Washington, D. C., for Farmers' Bulletin No. 921.

The three most essential ingredients in fertilizers, to stimulate plant growth, are nitrogen, phosphoric acid and potash. In the following high grade fertilizers we have all of these combinations properly mixed to give the best and quickest results. They contain no weed seed and are easily applied.

### Fertilizers in Small Gardens

Amateur garden makers are often puzzled as to the amount of fertilizer needed for their small plots, because the usual directions give only the amount per acre. The following table shows (approximately) the proper proportions:

100 lbs. per acre equals 1 lb. for a plot 10x43 feet.
200 lbs. per acre equals 1 lb. for a plot 10x21 feet.
300 lbs. per acre equals 1 lb. for a plot 10x14 feet.
400 lbs. per acre equals 1 lb. for a plot 10x11 feet.
500 lbs. per acre equals 1 lb. for a plot 10x 9 feet.

### A & M Lawn and Garden Fertilizer

A well balanced complete fertilizer prepared especially for general use around the home. For the lawn, garden, trees and shrubs. It may be used freely without any disagreeable odor or without attracting flies. Being in powdered form, it is easily and quickly applied. (50-lb. sack, \$2.00) (100-lb. sack \$3.50). f. o. b. Los Angeles.

**A & M Plant Food** A concentrated fertilizer for pot plants, ferns, roses, etc. An application of A & M Plant Food will start immediately a luxuriant rich green growth and make your plants like new. Packed in an air-tight package it will keep indefinitely. Per Package 35c. Add 5c for packing and postage.

**Special Potato Fertilizer** of proven worth and so satisfactory that it has been used for years by the same growers with great success and with undiminished confidence in its value.

**SULPHATE OF POTASH** seems to have a direct action on the starch formation in Potatoes, and Potatoes with a higher starch content show better cooking qualities and generally they are of finer, smoother skin, more regular in size and of most excellent demand in the market.

The growing season of Potato plants is short, therefore the fertilizer, to do good, must be rapid and made of materials all of which are immediately soluble in water and capable of being assimilated by the plant when it starts to growing.

The analysis of our Potato Fertilizer is:

- 4% Nitrogen.
- 8% Phosphoric Acid
- 4% Sulphate of Potash.

All the materials are finely ground. No one can make a better fertilizer for Potatoes than we are recommending in this mixture, and it will pay you to use it.

Price: \$3.75 per 100 lbs.; \$35.00 per 1000 lbs. F. O. B. Los Angeles.

**Bradley's Tree and Vine** A complete fertilizer that will give immediate results. Just the thing for trees, shrubs, vines and roses. Analysis, 3% ammonia, 8% available phosphoric acid, and 2% available potash. (Per 100 lbs. \$4.00) f. o. b. Los Angeles.

**Fish Fertilizer** This fertilizer is composed of dried fish, finely ground, and is purely organic. An excellent fertilizer for all crops. Will last for several crops without the need of other fertilizer. Write for prices.

**Dried Blood Meal** Is very rich in nitrogen and an excellent plant-food for increasing the yield of vegetables and fruit, and also for stimulating the growth of flowers. There is from 12 to 13% nitrogen. Write for price.

**Bone Meal** 3½% nitrogen and 16% phosphoric acid. Neither of these two elements are immediate in their action. If put in the soil in the Fall, some results will show the following Spring. Slow but sure. Write for price.

**Nitrate of Soda** Contains about 15% nitrogen. Is very quick in action and entirely soluble. Is best applied after the plants are growing. Price fluctuates. Write for prices.

**Leaf Mould** Excellent for mixing with soil for potted house-plants, especially ferns of all kinds. (Per sack \$1.00) F. O. B. Los Angeles.

**Gypsum** This is not a fertilizer, yet it has an indirect fertilizing value, which is mainly due to the fact that it has the power of changing unavailable forms of plant-food, especially potash, into available forms. A heavy dressing of Gypsum will greatly improve any heavy soil, rendering it lighter and more easily cultivated, and relieve the tendency to crust and bake. If your soil contains alkali or is sour, use Gypsum. (Per 100 lbs. \$1.50). Write for quantity prices.

**Sheep Manure** For lawns, gardens, window boxes, potted plants and flower beds. (Per 10 lbs. 50c) (50 lbs. \$1.50) (100 lbs. \$2.50) f. o. b. Los Angeles.

## Agricultural Hydrated Lime

It supplies the element calcium to plants; it makes "sour soil sweet," changes an acid condition to a slightly alkaline one; it has the power to shrink clay and adobe soils, making a larger number of crumbs from a sticky mass; it prevents packing, baking and cracking, makes cultivating easier; it promotes the normal decay of organic matter in the soil, preventing the accumulation of poisonous matter; it promotes the change of nitrogen in organic matter into available nitrates, liberates and places at the disposal of plants potash and phosphoric acid already in the soil. It destroys fungus and the germs of insect life that infest the soil. Hydrated Lime, because of its fineness, high calcium contents concentrated condition, is the ideal agricultural lime and the most economical on the market. Use one-half less than other forms of lime. In cloth sacks weighing approximately 80 pounds. (4-lb. carton 25c) (Per sack \$1.50) Write for prices in ton and carload lots.

D. M. S.

### Decomposed Marine Shells

It is a well established fact that ground shell is an excellent stimulant. The only reason it is not more generally used is because of its scarcity. Now there is a plentiful supply of decomposed shell together with the decomposed bones of fish and animals that have been washed together and for countless ages have intermingled with the soil that the entire mass contains all the elements of lime together with Phosphoric acid which applied to the soil intelligently is a good substantial fertilizer. Many citrus growers and gardeners have substantial benefits from its use.

If your soil needs lime, D. M. S. is the best.

Your alfalfa crop will be greatly increased by using D. M. S. (10 lbs. 50c) (Per sack, about 100 lbs., \$1.50) (Per ton \$25.00) f. o. b. Los Angeles.

## SULPHUR

Sulphur has long been used as an insecticide and fungicide as applied to plant life, but it has only been five years since it has attracted attention as a fertilizer. Two years ago we catalogued it, not alone as a fertilizer, but as a destroyer of fungi and larvae that exists in the soil. Read what it will do for the bean growers:

On the lima bean land the application was made the last of March, the material being broadcasted by hand, irrigated twice and cultivated three or four times during the growing season and threshed on October 4. The check plot beside it had absolutely the same treatment and was of the same soil type. The one-half acre gave 801 pounds of limas, the unsulphured 598 pounds, which was an increase of 203 pounds to the half acre, or over 400 pounds per acre.

The increase in crop yield, however, was not entirely due to whatever stimulating effect the sulphur may have made on the plants, for the stand was heavier than on the check or on the rest of the forty-acre field. This may have been due to the control or repelling of wireworm damage on this plot, for none were noticed working here, though many plants showed their work on the bordering rows and practically the whole field showed depredations to a greater or less extent.

## SULPHUR

### For All Purposes to Increase Crop Yields



Experiments conducted during the past few years by noted soil chemists and practical cultivators have revealed that sulphur:

1. Is readily utilized by plants as stimulating food.
2. It improves alkali soils by neutralizing the alkali which rises to the surface or which is carried in by the irrigation water.
3. Promotes nitrification; Dr. F. C. Reimer, in Oregon Agricultural Bulletin No. 163 says, "The various sulphur fertilizers have a very stimulative effect on the root system, increasing its size and the number of nodules. This is of great value in taking up larger quantities of plant food, moisture and atmospheric nitrogen."
4. Transforms latent potash and phosphates into available plant food.
5. Increases protein and feeding value of crops.
6. Destroys the spores of fungi and the larvae of injurious insects in the soil. Prevents Potato Scab, Wire Worms, Eel Worms or Nematodes, etc.

Drill into the soil two sacks per acre of "Toro Brand" specially prepared agricultural sulphur.

**Time to Apply** "TORO BRAND" should be worked into the soil in late fall and early spring in order to get the benefit of winter and early spring rains. However, in the irrigated districts it may be applied at any time of the year.

Price per sack of 110 lbs.: 1 sack lot \$5.50; 5 sack lot, \$5.25; 10 sack lot \$5.10; over 10 sacks, \$5.00; f. o. b. Los Angeles.



## "Herbicidal Spray"

### KILLS NOXIOUS WEEDS

Few ranches are free from undesirable weeds of some kind. The expense of combatting them and in spite of all you can do you cannot get a normal crop on the same acreage with the weed. You let it run from year to year not counting the cost.

Better use Herbicidal Spray and get rid of the weed.

Destroys all pest weeds, grasses, vines, shrubs, including MORNING GLORY, MALVA, THISTLE, JOHNSON, BERMUDA, CRAB, NUT, BRONCHO, WATER GRASSES, POISON OAK, PUNCTURE WEED and all other out of place plants.

It is a combination of chemicals shipped in concentrated liquid form to save you freight and other expenses, the material for ten gallons being shipped in a one gallon can, add the water yourself when you are ready to use it. It permeates the entire plant, stem and root, stops the formation of new plant food and breaks down the tissues of the plants causing the death and decay of the root system. Seed on the plants hit by the spray are defertilized by the Herbicide.

### A SUCCESSFUL WEED KILLER

"HERBICIDAL SPRAY" has been used and tested on a large scale through contract weed killing done by the manufacturers throughout Southern California.

Its concentrated form is a distinct saving and convenience both in bulk and weight. The fifty gallon size is packed in a five gallon container, (one-tenth the bulk and a saving of freight on 392 pounds of water), several of which can be carried in the ordinary automobile. Complete directions for mixing and use are on every container.

We have tried this at our demonstration garden. We have seen other demonstrations and it does kill Morning Glory when properly sprayed. We are convinced it does the work, that is why we offer it to you with our recommendation. Apply it to your walks and driveways.

Concentrate for two gallons.....	\$5.00
Concentrate for five gallons.....	11.00
Concentrate for ten gallons.....	21.00
Concentrate for fifty gallons.....	100.00

Prices on large quantities on request.

Registry No. 14 California Economic Poison Act of 1921

## Nitrogen Bacteria

WESTROBAC  
READ

We believe that Nitrogen Bacteria has been applied where it was not needed which fact resulted in many disappointments. But we repeat what we said in 1905. "Plant inoculated legumes on new soil that has not previously been inoculated and on poor sandy soil, but not on heavy alkaline soil."

### CHEAPER

Inoculation by good fresh commercial bacteria is vastly cheaper than hauling inoculated soil where a large acreage is involved or developing it by a prolonged tedious process when a small acreage is required.

Nitrogen Bacteria has had the positive endorsement of the United States Department of Agriculture for twenty years and needs no defense. It is now a recognized necessity.

But apply it intelligently.

Our Catalog since 1904 has always recommended an intelligent application of Nitrogen Bacteria.

Do not apply the bacteria to the seed in the sunshine or expose to the sunshine to dry after mixing. Remember that strong sunshine kills every form of bacteria. The best results are obtained when planting is done in the early morning or late afternoon or on cloudy days. If you drill the seed in moist soil you can plant any time of day.

The prices on Westrobac now in effect are as follows:

Garden Size .....	\$ .50
100 acres and under.....	2.00 per acre
100 to 200 acres.....	2.00 per acre less 5% cash discount
200 acres and over.....	2.00 per acre less 10% cash discount

This culture is bred in San Francisco laboratories especially for California soils. We do not put out any culture over thirty days old. It is our contention that the best results are only obtainable through the use of fresh, virile culture.

See Mulford culture page.

## A REAL MAGGOT REMEDY



### Protects Your Crops

against the ravages of the destructive Root Maggot, and other garden pests, making it possible to get fine crops of vegetables.

Also eradicates Earth Worms from Lawns and Putting Greens. Easily applied and is not in any way injurious to plant life, but is a valuable stimulant and fertilizer.

In powder form ready for use.

### APPROXIMATE QUANTITY REQUIRED

A 2-lb. package for about 300 feet of drill, or for field culture 300 to 500 lbs per acre.

2 pound package.....	\$ .35
4 pound package.....	.60
8 pound package.....	1.00
25 pound sack.....	2.50
100 pound sack.....	8.50

## Pacific Humus

### A NATURAL SOIL BUILDER AND PLANT FOOD

For the orchard, the farm, the lawns, the garden or for potted plants, window boxes and garden beds.

It is sanitary, clean and odorless and can be broadcasted over the grounds of the finest residences and parks without its presence being detected by smell or unsightly litter.

Pacific Humus is a product of decayed vegetation—the accumulation of the ages. It is a rich, dark colored, sweet-smelling material taken from natural deposits far enough below the earth's surface to be entirely free from the seeds of weeds and the germs of vegetable diseases.

### PACIFIC HUMUS THE PROPER EQUILIBRIUM

All agricultural and horticultural operations depend upon the activities of micro-organisms, bacteria, fungi and protozoa, also upon the physical condition of the soil. Man's intervention is confined entirely to maintaining the proper equilibrium between the favorable and the unfavorable conditions. Knowing the conditions which promote growth man can increase the fertility of soils by creating such conditions. Pacific Humus is the ideal product to maintain this proper equilibrium. Any clay or adobe soil is made mellow by adding humus. It will enrich washed out sandy soil by adding humus. This humus will retain moisture to a wonderful degree, thereby economizing water, promoting bacterial and plant growth.

We will deliver in sacks anywhere within our delivery zone at these prices: (25 lbs. 75c) (50 lbs. \$1.25) (100 lbs. \$2.00) (500 lbs. \$6.00) (1000 lbs. \$11.00) (Per ton \$20.00).

**INSTRUCTIONS.**—In order to get quickest and best results with Pacific Humus is to mix it with the soil and give it a thorough soaking after which pulverize it again as soon as it is tillable, it is then ready for the seed.

A soil filled with Humus will resist drouth much better than one without Humus.

### THE VALUE OF HUMUS

Most of our soils are distinctly deficient in humus.

Where the humus contents decrease, the soil invariably becomes less retentive of moisture and plant food, inferior in physical qualities and less productive.

Humus not only adds actual plant food to the soil and favorably influences bacterial activity, but also promotes the availability of certain soil constituents such as phosphoric acid and potash. It improves the texture of the soil and increases its water holding capacity.

Pacific Humus will end the anxiety and worries about the scarcity of stable manure, because mixed with a proper percentage of fertilizer it becomes in itself an ideal, perfect fertilizer, even better than stable manure.

The formula we recommend is viz:

With 100 lbs. of Pacific Humus mix 1 lb. Magotite—to destroy any injurious Microzoa.

1 lb. Toro Sulphur to destroy and prevent fungi.

10 lbs. Sheep Manure to enrich the Humus.

Greater benefit would be derived if an application of lime were mixed into the soil a week or longer before the Humus is applied.

## Lime and Fertility

The following is the summary and conclusions of experiments conducted by Messrs. J. W. Paterson, B. Sc., Ph. D., and P. Scott, chemist for agriculture (Victoria) regarding the relation of lime to soil fertility:

1. Lime tends to leave the surface soil through various channels, and fresh applications become necessary to maintain fertility.

2. Carbonate of lime is the best form of lime for the soil.

3. Burnt and slaked lime are rapidly changed to carbonate when they are applied to land.

4. The rate at which lime acts depends on its fineness of division.

5. Lime, but especially hot lime, has a good effect upon the mechanical condition of stiff clays.

6. Gypsum also coagulates clay, but it has not the beneficial effect of lime in other directions.

7. Lime greatly hastens the production of nitrates.

8. It has a good effect in liberating potash and phosphoric acid, especially when the later is combined with iron or alumina.

9. Where required by soil, lime produces larger crops.

10. It produces root crops, which are of greater feeding value.

11. It may often be a profitable application to grass land.

12. Lime kills sorrel, docks, and other acid-loving weeds.

13. It is especially stimulating to lucerne, clovers and leguminous plants.

14. Lime will not act if phosphates are deficient.

15. It increases the need, everywhere present, of plowing in green manure or stubbles.

16. It facilitates this operation.

17. The surest method of determining the need for lime is to dress trial strips and await results. (See Fertilizers)



# Grass Mixtures for Polo and Golf Links



Looking East Over the Flint Ridge Club House Down to the Arroyo Links.  
Lying west of the house there are several hundred acres of woodland and meadow, also devoted to golf.

## Seed Selection

In order to have the most satisfactory results with grasses it is important that thorough attention be given to soil condition and storm drainage. This is generally known to the green-keeper, but it is up to the seedsman after looking over your course to be able to advise what grasses or what mixtures are best suited to your local conditions, and rarely do two locations have like conditions.

## Advice

During the past year our advice has frequently been asked concerning soil conditions, and it has given us no little satisfaction that we were able to advise correctly the proper grasses to sow in each particular case.

The following named grasses are preferred for either greens, tees and fairways, but always in mixtures suitable to the soil and geographical conditions of each place:

- Perennial Rye (*Solium Perene*). Sow 1 lb. to 100 sq. ft.
- Fescue (*Chewings*). Sow 1 lb. to 100 sq. ft.
- Creeping Bent (*Agrostis Stolonifera*). Sow 1 lb. to 100 sq. ft.
- Kentucky Blue Grass (*Poa Pretensis*). Sow 1 lb. to 200 sq. ft.
- Red Top (*Agrostis vulgaris*). Sow 1 lb. to 20 sq. ft.
- Bermuda (*Eynodon dactylon*). Sow 1 lb. to 200 sq. ft.
- White Clover for fairways only. Sow 1 lb. to 200 sq. ft.

These grasses have been thoroughly tried and have proven satisfactory in our Southern California climate. It is only court- ing failure to try others.

We carry in stock for immediate delivery all of the above named grasses.

## MIXTURES

We make no mixture because of the difference in the size and weight of the different varieties it would be impossible to get an even distribution. Therefore we recommend that each one be sown separately in order to get a uniform mixture. To do so will prove more satisfactory.

## TIME TO SOW

In Southern California grass seed may be sown during any month in the year but avoid sowing during July and August because of the extreme heat that frequently prevails during these months.

## Soil Preparation and Seed Sowing

It is not necessary to dwell upon this subject, for the reason that every green-keeper is thoroughly informed, but to any one wishing information on this subject, we will be pleased to give information.

## Keeping Up to Standard

In order that greens, tees and fairways may be kept up to standard, it will be necessary to destroy worms and maggots. For this purpose Magotite (see Page 76) has proven to be a very efficient remedy. It will also be necessary to keep the soil in proper drainage and in good physical condition for growing grasses. Peat (see Pacific Humus Page 76) is the best available material to mix with either clay or sandy soil, but a good fertilizer is essential. A & M Lawn Fertilizer is prepared for that purpose. We also recommend an application of two sacks of Toro Sulphur, two sacks of Hydrated Lime per acre. This will give it a rich green appearance and keep it up to standard.

## Lawn and Golf Necessities

### Worthington "Lawn Cleaner Rake"

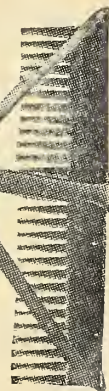
"Something New in Rakes"



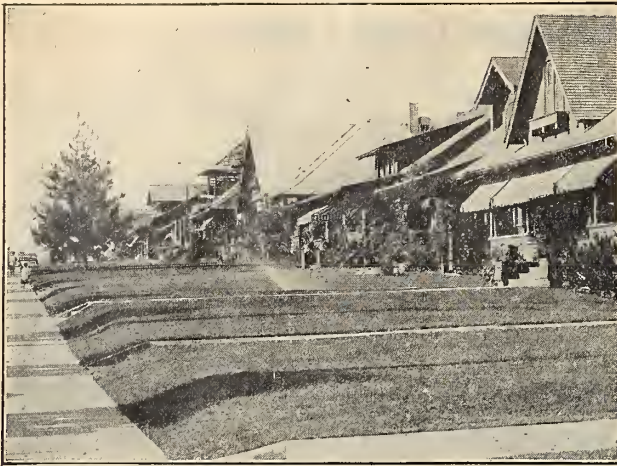
This rake is made to clean lawns of Bermuda Grass, Burr Clover, weeds, etc. Is made of steel and iron throughout and will withstand the heaviest kind of work.

Price \$3.00 f. o. b. here.

Havil Lawn Weeder  
60c postpaid







Every Lawn on the Block Shows A & M Lawn Mixture

## How to Make a Beautiful Lawn

The beautiful lawns of Southern California cannot be excelled anywhere in the world. In few places can a new home become so quickly surrounded with luxuriant vines, trees, shrubbery and flowers. This climate will accomplish more in one season than five seasons of Eastern climate. It is a pleasure to plant here, for there is something blooming all the year round. But it requires skill and intelligent aid to direct nature to produce a profusion of beautiful colors at all times.

In Southern California lawns may be made all the year. The first thing to do in making a lawn is to put the soil into proper condition to receive the seed. More lawn failures are due to insufficient preparation of the soil than to all other causes combined. If the soil is poor and of a sandy, clayey or adobe nature, and a good rich loam is not available, satisfactory results may be obtained by spading in a liberal quantity of Pacific Humus (see page 76). Lawn grasses are voracious feeders and for that reason it is desirable to have at least eight or ten inches of good rich soil. Pacific Humus is most commonly used.

To maintain a beautiful green lawn use A & M Lawn Fertilizer.

Sow about one pound of seed to two hundred square feet of lawn area. This heavy sowing is better than a thin sowing because many weed plants are crowded out by a good thick stand of lawn grass. The seed is sown evenly when the wind is not blowing and lightly raked into the surface.

## A & M Velvet Lawn Grass

California is noted for its beautiful lawns and every home owner should not only be interested in giving his home the final touch but should also consider that in California the lawns and general surroundings have much to do with increasing the value of property.

During our 28 years of seed experience in Southern California we have had every opportunity to study the effects of soil and climatic conditions on the various kinds of grasses, and A & M Velvet Lawn Grass is the final result. Planted at the rate of one pound to 200 sq. ft. A & M Velvet Lawn Grass will in a short time produce a soft velvety green carpet that one may well be proud of.

Price per pound 90c.  
10 lbs. \$8.50

Write for quantity price.

**Chewings Fescue** A very finely bladed lawn grass. This is the beautiful finely bladed grass that is largely used on putting greens.

Sow at the rate of one pound to each 150 square feet. (Per lb.) (10 lbs.) Write for quantity price.

**Fancy Kentucky Blue Grass** The purest and best a lasting and beautiful effect. We sell only the finest quality of this seed. (Per lb. 70c prepaid) (10 lbs. \$5.50 f. o. b. here).

**White Dutch Clover** Makes a showy effect much quicker than the Blue Grass. In conjunction with the Blue Grass, however, it forms the finest and closest turf. (Per lb. \$1.05 prepaid) (10 lbs. \$9.00 f. o. b. here).

**Perennial Rye Grass** Is very strong and quick-growing, producing an immediate effect. (Per lb. 35c prepaid) (10 lbs. \$1.75 f. o. b. here).



A Lippia Lawn at the Narbonne Ranch Coachella Valley  
**Lippia Canescens** This is a low-growing, trailing plant, producing grayish - green leaves, and quantities of small lilac-colored flowers. While it will respond to a light application of water, it will thrive and produce a good effect with little or no watering. Unlike Bermuda grass, it will never become a nuisance, and can easily be eradicated at any time. It stands sun and shade, and is well suited for planting in parkings along streets and avenues, and on terraces.

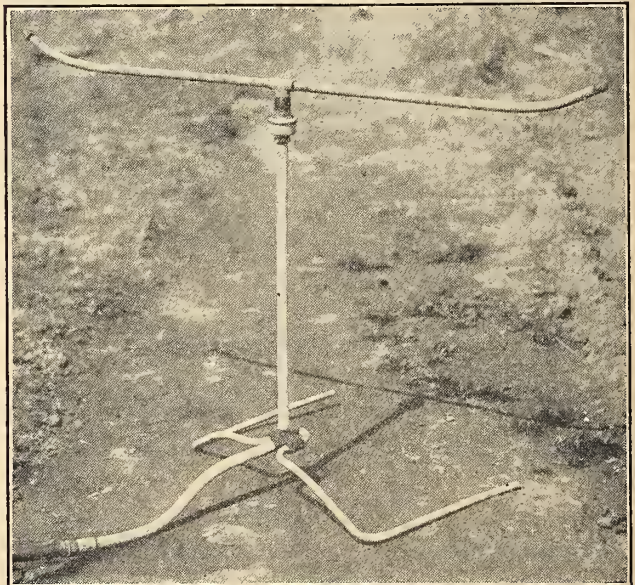
It is propagated by planting slips. Prepare the ground as for any other lawn or if a terrace prepare a suitable surface at the top for planting. Soak the ground until it is quite muddy; then with a pressure of the thumb bear into the mud one end of a slip six or eight inches long eight or ten inches apart each way. Sprinkle not too freely each day to keep a fresh green appearance.

We will send by mail postpaid enough cutting to plant 200 square feet of surface for one dollar (\$1.00). This will multiply rapidly in a very short time.

It is just the proper grass for the interior valleys. It grows to perfection in the Coachella and Imperial Valleys.

It grows just as thrifty at the beach where there is sufficient soil to give the roots a hold.

It is ideal to grow on a terrace to prevent erosion.

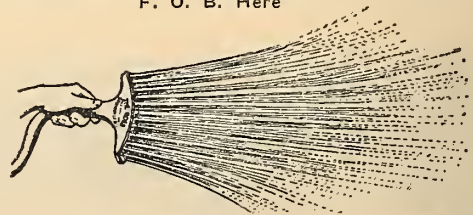


THE SUNSHINE SPRINKLER No. 3

This sprinkler has fully met the requirements of the rural home. It has become very popular. Wherever one has been introduced, almost every neighbor will have one. Just the thing for a small alfalfa patch, garden or lawn. It can be raised to any height required by adding more pipe

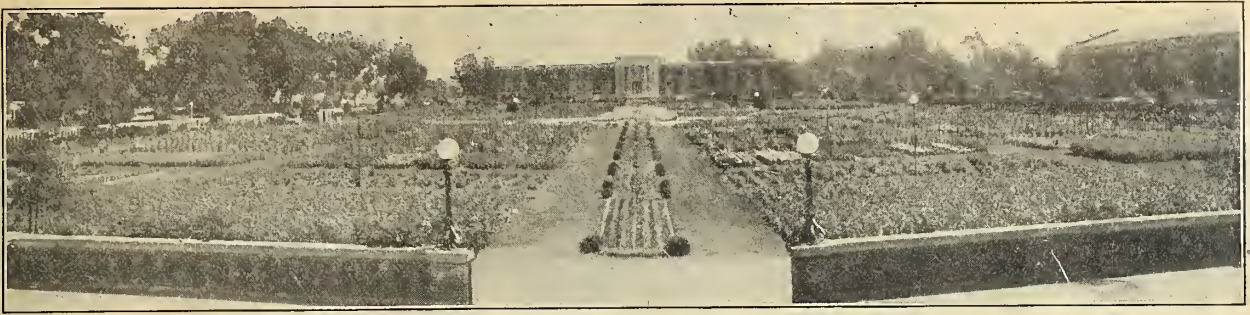
No. 1, for small plots.....	\$4.00
No. 2, for small gardens.....	5.25
No. 3, for large plots.....	6.75

F. O. B. Here



THE ROSS SPRINKLER 85c postpaid





The Flower Show in the Sunken Gardens at the Exposition Grounds, Lo Angeles, Cal., October, 1921.

## List of Flower Seeds for Special Purposes

There are no more satisfactory flowers than those grown from seed, especially the easily grown and brilliant flowered annuals. The beautiful shrubs and lilies, of course, have their place, but are far more expensive than a paper of seed which will furnish a large number of plants with usually enough for one's garden and some to spare.

\* This page is intended to aid you in the selection of your seeds that you may have flowers all the year round, and for every purpose.

**Tender or Greenhouse** means the plant will not stand the least frost. All such must be planted late in spring (May) or in a greenhouse.

**Half Hardy** means the plant will stand any light frost, but needs protection against very cold weather. These should be planted in the spring (March and April), not in the fall.

**Hardy** means the plant will stand considerable frost, or practically all we have on the Pacific Coast. These may be planted in the fall or in the spring (October to May). If sown in the fall they will come into bloom earlier than if sown in spring, even if the plants do not make much progress during the cold weather.

**Annuals** are plants that bloom in the first year from seed, and the plant dies after one season. Tender annuals must be sown in spring (April to June) and hardy annuals may be sown in either spring or fall (October to May).

**Biennials** are plants that bloom the second year from seed, and plant dies after blooming. In California many of these will bloom the first year if sown early. Sow under same conditions as perennials.

**Perennials** are plants that bloom the second year from seed, and the plant lives and blooms during successive years. If sown in early spring (February to April 15) many perennials will bloom the first year from seed. Tender and half-hardy perennials are best sown in spring after frost is over (April 15 to June). Hardy perennials are best sown in the late summer and early fall (July to October) for next year's flowers.

### FLOWERING ANNUALS, ALSO SOME PERENNIALS WHICH FLOWER FIRST SEASON FROM SEED

Varieties marked \* Are Best for Beds and Masses  
Abronia, Acroclinium, Ageratum\*, Alyssum\*, Antirrhinum\*, Arctotis, Asters\*, Balsam, Bartonina\*, Begonia, Bellis, Brachycome, Calendula\*, Calliopsis\*, Candytuft\*, Canna\*, Carnation, Celosia, Centaurea\*, Chrysanthemum (Annual)\*, Cineraria, Clarkia, Convolvulus\*, Cosmos\*, Dahlia, Dianthus, Dimorphotheca, Escholtzia\*, Gaillardia\*, Geranium, Godetia\*, Gomphrena, Gypsophila, Helianthus (Sunflower), Helichrysum, Hollyhock (annual), Hunnemannia\*, Kochia, Larkspur\*, Linum, Lobelia\*, Lupins\*, Marigold\*, Matricaria, Mathiola, Mignonette, Mimulus, Myosotis, Mirabilis, Nasturtium\*, Nemesia\*, Nemophila, Nicotiana, Nigella, Pansy\*, Petunia\*, Phlox\*, Poppy\*, Portulaca\*, Salpiglossis, Salvia\*, Scabiosa, Schizanthus, Stevia, Stocks\*, Sunflower, Sweet Peas, Verbena\*, Vinca\*, Viola Cornuta\*, Zinnia\*.

### FLOWERING PERENNIALS FOR PERMANENT BEDS AND BORDERS

Agatheia, Antirrhinum, Aquilegia, Begonia, Bellis, Canterbury Bells, Canna, Carnation, Centaurea Candidissima, Coreopsis, Cyclamen, Daisy, Dahlia, Delphinium, Dianthus, Digitalis, Forget-Me-Not, Gaillardia, Geranium, Gerbera, Gypsophila, Heliotrope, Hollyhock, Hunnemannia, Lantana, Lobelia, Lupinus, Mimulus, Myosotis, Pentstemon, Petunia, Phlox, Poppy, Primula, Pyrethrum, Ricinus, Romneya, Rudbeckia, Salvia, Scabiosa, Shasta Daisy, Statice, Stevia, Sweet William, Verbena, Vinca, Viola, Wallflower.

### FOR HANGING BASKETS AND WINDOW BOXES

Alyssum, Asparagus Sprengeri, Convolvulus, Candytuft, Coleus, Kenilworth Ivy, Lobelia Gracilis, Geranium, Nasturtium, Smilax, Thunbergia, Vinca Rosea, Pansy.

### ORNAMENTAL AND FOLIAGE PLANTS

Amaranthus, Canna, Centaurea Candidissima, Coleus, Kochia, Pyrethrum, Ricinus.

### FOR EDGING AND BORDERS

Ageratum, Alyssum, Asters (dwarf) Begonia, Bellis, Daisy, Candytuft (dwarf), Centaurea, Candidissima, Coleus, Dimorphotheca, Gomphrena, Kochia, Lobelia, Marigold (dwarf), Myosotis, Nasturtium, Pansy, Phlox Drummondii, Pyrethrum, Viola, Zinnia (dwarf).

### FRAGRANT FLOWERS

Abronia, Alyssum, Centaurea, Carnation, Clematis, Paniculata, Centaurea Imperialis, Cyclamen, Dianthus, Heliotrope, Honeysuckle, Mathiola, Mignonette, Mimulus, Nicotiana Affinis, Pansy, Scabiosa, Stocks, Sweet Peas, Sweet William, Violet, Wallflower.

### CLIMBING PLANTS

Annuals—Balloon Vine, Balsam Apple, Balsam Pear, Canary Bird Vine, Cardinal Climber, Convolvulus, Wild Cucumber, Cypress Vine, Japanese Hop, Hyacinth Bean, Ipomoea, Japanese Morning Glory, Mina Lobata, Nasturtium, Scarlet Runner, Sweet Peas, Thunbergia.

Perennial—Ampelopsis, Asparagus Plumosa, Australian Pea Vine, Bignonia, Clematis, Cobea, English Ivy, Honeysuckle, Lathyrus, Moon Vine, Passiflora Edulis, Smilax, Wisteria.

### FOR CUT FLOWERS

Acroclinium, Antirrhinum, Asters, Candytuft, Carnation, Arctotis, Brachycome, Calendula, Calliopsis, Celosia, Centaurea, Chrysanthemum, Coreopsis, Cosmos, Dahlia, Daisies, Delphinium, Dianthus, Gaillardia, Gerbera, Hunnemannia, Larkspur, Lupins, Marigold, Matricaria, Mignonette, Pentstemon, Poppies, Pyrethrum, Salpiglossis, Salvia, Scabiosa, Schizanthus, Statice, Stevia, Stocks, Sunflower, Sweet Peas, Zinnias.

### FOR SHADY PLACES

Anemone, Antirrhinum, Aquilegia, Begonia, (tuberous), Bellis, Daisy, Cineraria, Cyclamen, Delphinium, Scarlet Flax, Foxglove, Mimulus, Myosotis, Ceanothus, Pansy, Primula, Viola, Violets and Ferns.

## To the Lovers of California Wild Flowers

We recommend to you a book entitled "Annotated List of the Wild Flowers of California" by P. B. Kennedy, B. S. A., Ph. D., University of California, President of the California Botanical Society. It has just the information you want with you when you travel through the hills and valleys of California. Price at the counter is \$1.50. By mail \$1.60.

## CALIFORNIA WILD FLOWERS

If you have a piece of ground you cannot irrigate, or have not time to give particular attention, yet you want to have something beautiful instead of unsightly weeds, we advise you to plant our California Wild Flower mixture. It contains twenty distinct species of wild flowers mixed in such proportion as to give a succession of bloom over a long period. It will succeed under ordinary conditions if planted in the Fall when the rainy season commences. One pound of seed is sufficient to plant an acre. (Pkt. 10c.) (oz. 50c.) (1/4 lb. \$1.50) (lb. \$5.00).



# FLOWER SEED LIST

SEE INSIDE BACK COVER



## A SEED FIELD OF A & M ASTERS

**ABRONIA (Sand Verbena).**—A hardy annual, trailing in habit, about nine inches high, bearing verbena-like clusters of flowers, which are very fragrant. A native of California. Thrives in dry situations, and is valuable for rock work or hanging baskets.

**Umbellata.**—Rosy lilac. Pkt. 10c.

**ACROCLINIUM.**—Hardy annual everlasting flowers, white and self pink with golden centers. Should be cut the first day they open. Pkt. 10c.

**AGERATUM (Floss Flower).**—A hardy annual of easy culture, especially valuable for bedding, as it is literally covered with blossoms all summer. Sow the seed early in the spring, either in boxes to transplant, or out of doors, and thin to four to six inches.

**Blue Perfection.**—Deep Blue, one foot high. Pkt. 10c.

**Imperial Dwarf White.**—One foot high. Pkt. 10c.  
Mixed. Pkt. 10c. ¼ oz. 25c.

**AGATHEA.**—Sometimes referred to as the Blue Marguerite. Plants dwarf and compact, covered throughout a long season with myriads of small Blue Marguerite-like flowers. These are splendid for cutting purposes. Pkt. 10c.

**AMMOBIUM.**—Hardy annual everlasting flowers. Pure white and very double. Pkt. 10c.

**ANGEL'S TRUMPET.**—See Datura.

**AMPELOPSIS QUINQUEFOLIA.**—A very popular climber. Hardy perennial. Seed may be sown any time of the year. During the summer the foliage is green changing to various shades of bronzy red during the fall. Pkt. 10c.

**AUSTRALIAN PEA VINE (Dolichos Ligosus).**—A rapid growing evergreen climbing perennial, flowering freely in large clusters of rose flowers. For covering arbors, trellises, etc., they have no superior. Pkt. 10c.

## ASPARAGUS.

**Plumosus.**—A tender perennial for greenhouse or potted plant use, with long, fine, feathery foliage. The sprays when cut, retain their freshness in water from three to four weeks. Seeds start slowly and should be soaked in water before sowing. Pkt. 10c. 100 seeds 50c.

**Sprengeri.**—A hardy variety. Used as a pot plant. Suitable in groups of potted flowers or in hanging baskets. Pkt. 10c. 100 seeds 45c.

**ALYSSUM.**—A fragrant hardy annual, having the odor of honey and bearing spikes of small white flowers in great profusion throughout the summer and autumn. Useful for borders or early bedding flowers. Sow the seed early in spring.

**Benthami (white).**—A dwarf strain very suitable for borders. Pkt. 10c, oz. 30c.

**Sweet Alyssum.**—One foot high, very sweet honey fragrance. Pkt. 10c, ¼ oz. 25c.

**Little Gem.**—Three to four inches high; fine for borders. Pkt. 10c, ¼ oz. 25c.

**AMARANTHUS.**—Hardy annuals, grown especially for their brilliant foliage.

**Caudatus (Love Lies Bleeding).**—Light yellowish-green foliage; long, drooping crimson flower spikes. Plants grow three feet high. Pkt. 10c.

**Salicifolius or Willow Leaved.**—This variety never fails to attract attention. The long variegated foliage makes it very useful for tall bedding or as a background. Height 3 ft. Pkt. 10c.

**AQUILEGIA.**—A hardy perennial, growing about two feet high and bearing an immense variety of colors on long, smooth stems.

**Canadensis.**—An improved variety of scarlet and yellow. Pkt. 10c.

**Coerulea (Rocky Mountain Blue Columbine).**—Fine deep blue and white; long spurs. Pkt. 15c.

**Helenae.**—A striking shade of blue and white. Pkt. 10c.

**Long Spurred Hybrids Mixed.**—For cut flowers these long spurred hybrids are unexcelled. Profuse blooms, of almost every shade, borne on long graceful stems, make this variety one of universal admiration. Pkt. 15c.

**White Spurred.**—Pure white with long spurs. Pkt. 15c.

**Double Mixed.**—Pkt. 10c.

**Single Mixed.**—Pkt. 10c.



Sweet Alyssum (Little Gem)



Aquilegia Long Spurred Hybrid



## A & M Popular Strains of Aster

**ASTERS.**—A popular half-hardy annual produced in a great variety of classes, and an almost endless number of colors. The tallest grow about two feet high, and some varieties of dwarfs are not over eight inches high. The best method of culture is to sow the seed in boxes and transplant when large enough to handle. The seed can be sown, however, in the row where the plants are to remain, thinning them from six to twenty inches apart, according to variety.

### A & M American Beauty

**American Beauty.**—A wonderful new free branching Aster with very long stems. Grows nearly three feet tall with very double flowers.  
Carmine Rose Lavender Purple  
September Beauty (Shell Pink)  
Pkt. 25c.

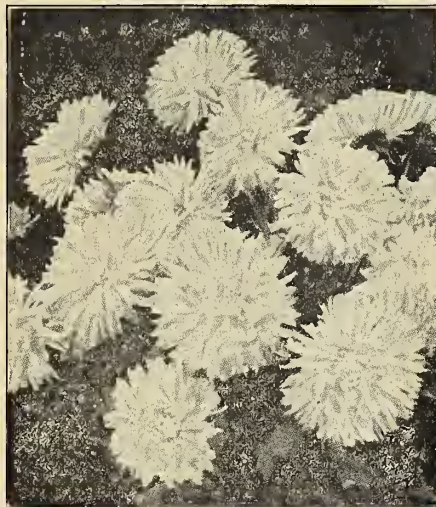
**A & M Quilled.**—An old favorite which has become popular again. The quilled petals give a pompon effect and the flowers often measure 3 inches across. Its keeping qualities excel all other varieties. A variety which retains its bloom and color beyond the time of other popular sorts. Pkt. 10c. Mixed.

**A & M Dwarf Boquet.**—A compact and free flowering variety which is admirably adapted for edging and carpet bedding. Height 1 ft. All colors mixed. A strain recommended as a border variety, being exceptionally dwarfed. Pkt. 10c.

**Hercules.**—Mixed. Pkt. 10c.

### EARLY FLOWERING VARIETIES.

**Queen of the Market, Mixed.**—One of the earliest blooming varieties, blossoming frequently in July. Of spreading habit, 8 to 10 inches high. Blossoms medium sized, and the petals curve outward. The best variety for bedding or edging. Pkt. 10c. ¼ oz. 45c.



Giant Branching Comet

**Giant Comet.**—A long stemmed variety carrying well formed flowers. Useful for cutting.

Crimson. Dark Blue Pkt. 10c.

### LATE FLOWERING VARIETIES.—

#### A & M Giant Branching Comet

**Giant Branching Comet.**—The tallest and best florist's variety, and we heartily recommend it as the very best type of Aster we have. The plant grows 24 inches high and about 18 inches in width and the blossoms, which are large and full-petaled, are borne on long stems or branches..

Crimson Rose Pink Dark Blue  
Shell Pink Light Blue Lavender  
Rose Royal Purple White Mixed  
Pkt. 10c. Separate colors, ¼ oz. 50c.  
Mixed, ¼ oz. 45c.

**American Branching.**—An excellent variety, both for borders and cutting. Has long stems carrying well formed flowers. White, Pkt. 10c. ¼ oz. 50c.  
Mixed, Pkt. 10c, ¼ oz. 45c.

### MID-SEASON FLOWERING VARIETIES.

**Ostrich Feathered.**—Extremely graceful Aster, with large, loose, feathery heads, unrivalled for table decoration, flowers double and semi-double. The branching habit makes this a conspicuous border plan Height, 18 inches.

Crimson Rose Pink Dark Blue  
Shell Pink Light Blue White  
Rose Mixed  
Pkt. 10c. Separate colors, ¼ oz. 60c.  
Mixed, ¼ oz. 55c.

## A & M Antirrhinum (Snapdragon)

Our improved strains of these have proven one of the most attractive out-door bloomers. Planted in the spring they will be a riot of bloom all summer and if cut back late in the fall will bloom all winter. Be sure to include these in your garden.

**Majus or Tall Large Flowering Varieties.**—Height 3 feet.

**Fire King.**—A brilliant scarlet orange variety. Pkt. 10c.

**Golden King.**—Long spikes of showy

yellow flowers which remain in bloom the whole of the summer. Pkt. 10c.

**Queen Victoria.**—Striking variety sending up numerous long spikes of pure white flowers. Excellent for cutting. Pkt. 10c.

**Rose Pink.**—A delightful shade of pure rose pink. Very vigorous and free-flowering. Pkt. 10c.

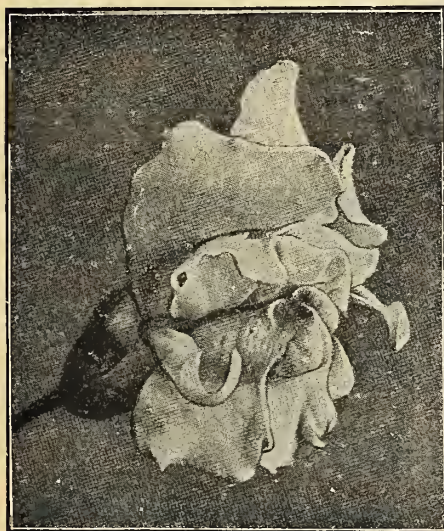
**Silver Pink.**—A delicate pink with silver shading. Pkt. 10c.

**Venus.**—Pink and white, with white throat. Pkt. 10c.  
The above tall varieties are also offered in ¼ oz. 50c.  
Mixed.—Including all the new colors. Pkt. 10c. ¼ oz. 35c.

**Majus Semi-Dwarf.**—Mixed. Pkt. 10c.

**Crimson Queen.**—Semi-Dwarf variety. Extremely rich color, which makes a splendid contrast with the lighter varieties. Pkt. 10c.

**Majus, Tom Thumb.**—An excellent mixture containing all shades of these showy flowers. Splendid for edging and showy display. Height 10 inches. Mixed.—Pkt. 10c.



Antirrhinum Double White

## ARCTOTIS GRANDIS African Lilac Daisy

**Grandis.**—Large pearly white Marguerite-like flower, with delicate mauve center surrounded by a narrow golden band. The whole plant is covered with white down. Half hardy annual. Height 2 feet. Pkt. 10c.



Arctotis Grandis



## A &amp; M BALSAM

**BALSAM OR TOUCH-ME-NOT.**—A tender annual, with brittle stems and foliage. Flowers both single and double, in bright colors and variations are wax-like and very attractive. The individual blossoms floating in a dish of water exhibit their beauty to the best advantage.



A &amp; M Balsam

**Improved Double Camelia Flowered.**—In its extraordinary size, perfect form and brilliant colors, this fine strain of balsams surpasses all others. Height 18 inches. Pkt. 10c.

**Rose Flowered.**—Handsome double flowers in form resembling a rose. Height 18 inches, fine mixed. Pkt. 10c.

**Spotted.**—Large semi-double flowers well adapted for borders, fine mixed colors. Pkt. 10c.

**BALSAM APPLE.**—See Momordica.

**BACHELOR'S BUTTON.**—See Centaurea.

**BALLOON VINE, OR LOVE-IN-A-PUFF.**—Climbing annual, with small flowers. The seed pods are curiously swelled or puffed and are quite attractive. Pkt. 10c.

**BARTONIA AUREA.**—A showy annual bearing large golden yellow flowers which glisten in the sunshine. Height 18 inches. Pkt. 10c.

**BEGONIA.**—Very attractive flower for both pot and bedding use and should be more extensively grown for shady borders. Perennial. Pkt. 25c.

## A &amp; M Double Daisy

**BELLIS PERENNIS (Double Daisy).**—A hardy perennial, blossoming freely all spring and summer. Plant is about four inches high and is valuable for borders.

**Extra Double Red.**—A variety of more recent introduction. Recommended as a border plant. Pkt. 15c.

**Extra Double White, or Snowball.**—A clear white variety. Pkt. 15c.

**Extra Double Pink.**—A beautiful shade of pink. Pkt. 15c.

**Double Mixed.**—Pkt. 10c.

**BIGNONIA (Trumpet Vine).**—Magnificent hardy perennial climber, with brilliant scarlet or yellow flowers; a most ornamental and effective covering for walls, houses, etc. 30 feet. Pkt. 10c.

**BRACHYCOMBE IBERDIFOLIA (Swan River Daisy).**—A charming annual deserving greater popularity. The plants, which grow about 10 inches high, are covered with small Cineraria-like blooms in shades of blue and lavender. Mixed. —Pkt. 10c.

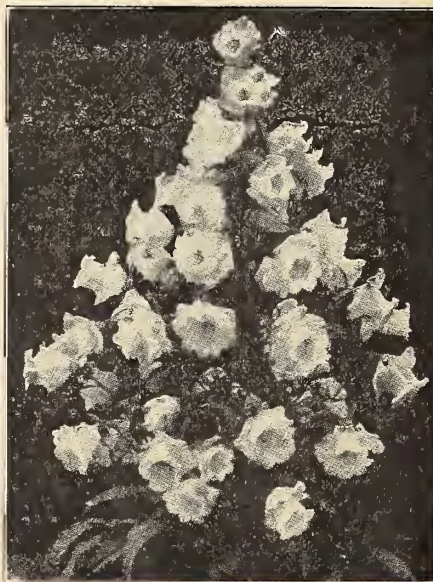
**CANARY BIRD FLOWER (Tropaeolum-Canariense).**—A tender, climbing annual of the nasturtium family. Blossoms have curiously winged petals and are light yellow. Pkt. 10c.

**CANNA.**—A perennial growing 3 to 6 feet high. Suitable for bedding and back grounds. Plants have bright flowers and ornamental leaves. Soak seed in tepid water several hours before planting. Mixed colors. Pkt. 10c. oz. 45c.

**Crozy's Varieties.**—Mixed. New large-flowered and free-blooming sorts. Pkt. 10c. oz. 60c.

**CARDINAL CLIMBER.**—A new annual climber of great merit, bearing a mass of small crimson flowers. Height 10 to 15 feet. Pkt. 15c.

**CASTOR OIL BEANS.**—See Ricinus.



Canterbury Bells

**CANTERBURY BELLS (Campanula Medium).**—A hardy perennial, blooming the second year from seed, or the first if sown early. Grows about three feet high.

Single Blue

Single Rose

Single White

Single Mixed

Pkt. 10c.

Double Mixed—Pkt. 15c.

**Calycanthemum.**—A variety of Canterbury Bells having large semi-double flowers each resembling a cup and saucer.

Mixed.—Pkt. 15c.

**CALIFORNIA POPPY.**—See Eschscholtzia.

## A &amp; M CALENDULA

**CALENDULA (Pot Marigold).**—Very hardy annual, one foot high, blooming freely practically the whole year round. It is of the easiest culture and is desirable for rather inferior soils, where less sturdy flowers do not thrive. A medicinal extract resembling arnica is made from the flowers.

**Orange King (New).**—Bears giant flowers sometimes 3 inches in diameter. Color pure orange. Pkt. 10c.

**Lemon Queen.**—Like the above, but of pure lemon. Pkt. 10c.

**Double Mixed.**—A good mixture of 8 or 10 different shades of yellow, some clear colors and some shaded and striped. Pkt. 10c. oz. 25c.

**CALLIOPSIS.**—See Coreopsis.

**CANDYTUFT (Iberis).**—A hardy annual, growing about 12 to 18 inches high, according to the variety. The blossoms are borne on long spikes, and the newer varieties are quite large flowering and very fragrant. Of easy culture and valuable for bedding or massing.

Crimson      Pink      Flesh Color  
White      Lilac      Mixed

Pkt. 10c. Separate colors, oz. 45c. Mixed oz. 35c.

**Giant White Hyacinth Flowered.**—A giant Candytuft, bearing immense snowy white spikes, the blooms of which often measure 10 inches or more. Don't fail to give this a trial. Pkt. 10c.

**Coronara Empress.**—Large trusses of pure white flowers, the finest candytuft yet raised. Pkt. 10c.

**CARNATION.**—Our strain of these popular flowers is unsurpassable in beauty and variety of coloring; also in their delightful fragrance. Seed should be sown in pots or boxes and when 2 to 3 inches high, may be transplanted to the open bed or border, giving shade until the young plants have become established. Sow anytime between March and September.

**Chaubaud's Earliest French Mixed.**—A very popular strain, easily raised from seed, producing beautiful double flowers. Pkt. 15c.

**Grenadin Scarlet.**—A valuable early-flowering variety coming quite true to color and producing an exceptionally large percentage of sweet scented double scarlet flowers. Pkt. 10c.

**Marguerite Pure White.**—An exquisite sweet scented fringed flower of pure white color. Pkt. 10c.

**Marguerite, Mixed Colors.**—This assortment gives a large percentage of fine double flowers. Pkt. 10c.



Marguerite





Anemone Flowered Cosmos

## A & M GIANT FLOWERED COSMOS

**COSMOS**—An annual with fine-cut feathery foliage and large, showy blossoms. Cosmos now divided into two distinct classes, the early and late varieties. The early flowering will bloom in June and if cut back will bloom again in September. The late blooms in the fall or about November 1st. Plant out in the open where the flowers are intended to bloom.

They are easily grown, make a fine showing and are wonderful cut flowers. No California home should be without A & M Giant Flowered Cosmos.

**New Mammoth Early Flowering Mixed.**  
An improved early type which blooms 60 days after planting. The immense blooms often measure 6 inches in diameter and come in a mixture of white, pink and crimson. Pkt. 10c, oz. 45c.

### LATE GIANT COSMOS—

Crimson    Pink    White    Mixed  
Pkt. 10c, oz. 30c.

**Crested or Anemone Flowered Cosmos.**  
This variety has a decidedly double center with outer guard petal as shown in the above cut. This is made from an actual photograph of these flowers. Pkt. 15c.

**Lady Lennox.**—Large flowering strain of shell pink shade. Excellent for cutting. Pkt. 10c, oz. 30c.

**DOUBLE COSMOS.**—We have secured a small amount of seed of these beautiful double Cosmos. This is one of the finest of recent novelties and most exquisite of all for cut flowers.

Double Pink                      Double White  
    Double Crimson

**Klondyke.**—A new brilliant orange. Pkt. 25c.

### CENTAUREA IMPERIALIS (Royal Sweet Sultan).

—This is the variety so popular in the florist's store. The plants are of spreading habit and one plant has been known to keep a home replenished with cut flowers during the entire summer. Height, 3 to 4 feet. A hardy annual. White    Lavender    Rose

Purple    Mixed  
Pkt. 10c. Separate colors, ¼ oz. 35c. Mixed, ¼ oz. 25c.

**Sauvelons.**—Similar to Imperialis, but producing yellow flowers. Pkt. 10c. ¼ oz. 40c.

**CENTAUREA CYANUS (Corn Flower or Bachelor's Button).**—This old fashioned flower is still a great favorite for cutting purposes. We call special attention to our new double blue, which is a great improvement on the single variety. Annual.

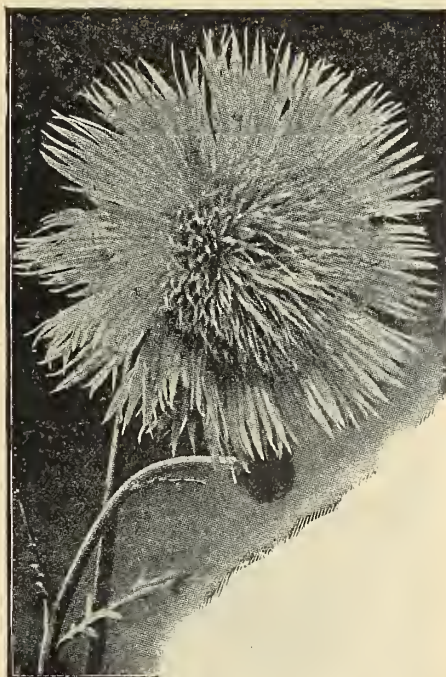
**Single Blue.**—The rich deep blue Bachelor's Button. Pkt. 10c. ½ oz. 35c.

**Double Blue.**—The same pleasing shade of blue but of much more substance than the single kind. Height 2 to 3 feet. Pkt. 10c. ½ oz. 35c.

**Double Mixed.**—Contains the well known colors. Pkt. 10c. oz. 45c.

**Single Mixed.**—Contains various shades of pink, white and blue. Pkt. 10c, oz. 30c.

**CENTAUREA CANDIDISSIMA** — (True Dusty Miller.)—Broad silvery white foliage; useful for edging. Height 12 inches. Pkt. 10c.



Centaurea Imperialis

**CELOSIA.**—Very ornamental and strong plants, producing magnificent spikes of feathery looking flowers. They succeed well in the garden and make very attractive pot plants. Annual.

**Plumosa Mixed.**—A very fine selection of the popular feathered Celosia containing many pleasing shades of color varying from pale yellow to the deepest crimson. Pkt. 10c.

**Celosia Cristata (Cockscorn).**—This is too well known to need description. We offer it in the following:

**Dwarf Empress.**—A handsome strain, large and compact heads; color, splendid crimson. Height 10 inches. Pkt. 15c.

**Dwarf Yellow.**—A variety producing flowers of an attractive hue. Pkt. 10c.

**CELOSIA CHILDII (Woolflower).**—A new annual of great merit. As the name suggests, the flower resembles huge balls of crimson wool. When cut, if it is hung head down until dry, makes a beautiful everlasting flower. Height 15 inches. Pkt. 15c.

**CHRYSANTHEMUM.**—(Annual) Carinatum. Painted daisy. A mixture of all the attractive colors. Pkt. 10c. oz. 25c.

**Coronarum.**—(Annual). Double Mixed. Very showy mixture containing the most popular shades. Pkt. 10c. oz. 30c.

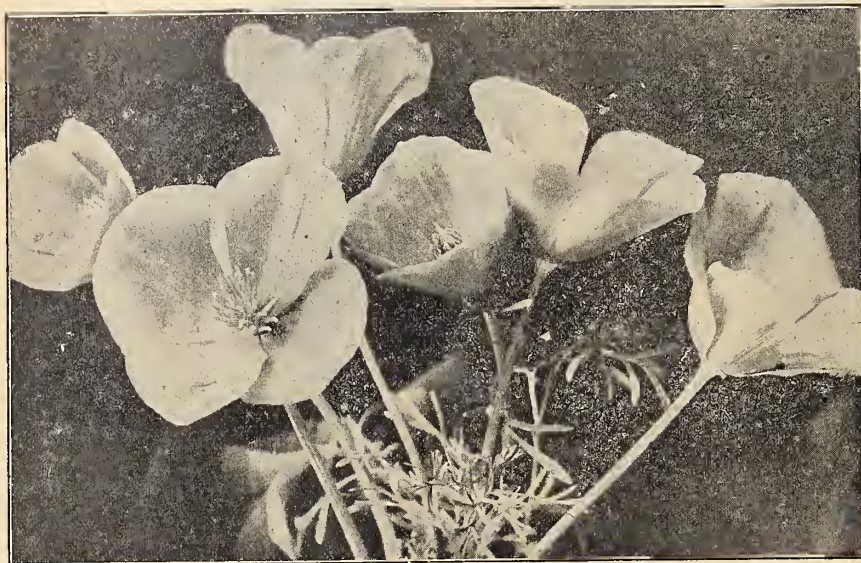
**CINERARIA.**—A tender perennial grown principally in the greenhouse, but can also be grown in sheltered spots in the open ground. Appreciated for its brightening effect during the winter months.

**Hybrida Grandiflora.** A very comprehensive mixture of the most attractive colors, producing flowers of immense size. Pkt. 35c.

**Hybrida.**—Choice mixed; splendid strain of compact growth, bearing large exquisitely colored flowers. Pkt. 25c.



## A &amp; M CALIFORNIA POPPY



Eschscholtzia California Poppy

## Eschscholtzia or California Poppy

A hardy annual with fine-cut feathery foliage and beautiful velvety cup-shaped flowers. Grows from 1 to 1½ feet high and blooms profusely. Seed may be sown in the fall and any time thereafter till April, and blossoms may be had from early in January till late in summer. The beautiful state flower of California.

## Californica

The bright, orange-yellow common variety. Pkt. 10c, oz. 25c.

## Golden West

Perhaps the most popular strain of this well known flower. Color a deep orange yellow. Pkt. 10c, oz. 25c.

## Crimson Improved

A deep rich crimson. Very choice. Pkt. 10c.

## Alba

An improved white. Pkt. 10c.

## Mixture of All Varieties

Pkt. 10c, oz. 30c, lb. \$3.00.

## Busch Eschscholtzia

See Hunnemannia.

**CLARKIA.**—A hardy annual of easy culture, growing about 18 inches high and bearing in great profusion. Native of California. Seed sown in the fall will give early blossoms in the spring. Seed can be sown almost any time.

**Elegans Double Mixed.**—The long sprays of bloom resemble peach blossoms and are very showy when in full bloom. Height 3 ft. Pkt. 10c.

**Single and Double Mixed.**—Pkt. 10c.

**CLEMATIS, (Paniculata).**—A very fine hardy climber; leaves bright and glossy green; flowers small and hawthorne scented, and just covering the plant when in bloom. Excellent for covering trellises, cemeteries or fences. Pkt. 10c.

**COBEA SCANDENS (Cup and Saucer Vines).**—A perennial climber of rapid growth; very valuable for covering trellises, arbor, trunks of trees, etc. Will cling to any rough surface, often attaining a height of 30 to 40 feet in one season.

**Scandens Alba.**—White. Pkt. 10c.

**Scandens Purpura.**—Large bell-shaped purple flowers. Pkt. 10c.

**COIX LACHRYMAE ("Job's Tears").**—Curious ornamental grass with broad corn-like leaves and seeds of a light slate color. Valuable for winter bouquets with everlasting flowers. Strings of handsome beads are made from the seeds. Hardy annual; three feet high. Pkt. 10c, oz. 30c.

**COLEUS**—Perennial. These beautiful and ornamental foliage plants, producing the most attractive colors, are a most interesting subject to grow from seed. To watch the foliage change into a variety of colors as it grows day by day, is wonderful. Pkt. 15c.

**CORNFLOWER.**—See Centaurea.

**COREOPSIS AND CALLIOPSIS.**—These are of the same family but placed in two classes—Annual and Perennial.

**COREOPSIS (Lanceolata Grandiflora).**—A hardy perennial bearing a profuse and long-continued succession of large, bold, golden yellow flowers during the whole summer months. Seed sown in March will flower the same season. Height, 2½ feet. Pkt. 10c.

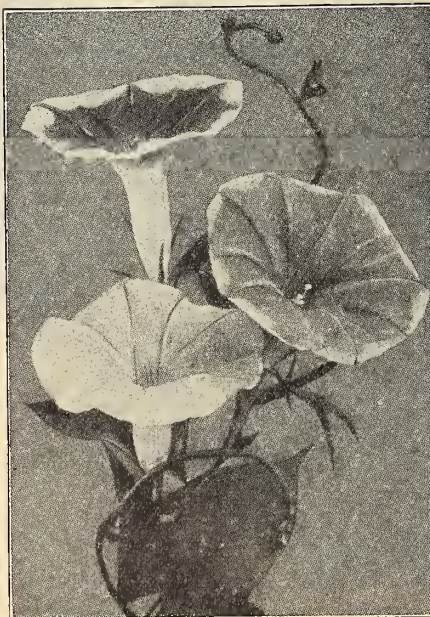
## (Convolvulus)

Free flowering, beautiful climbers with rich and varied colored flowers; very useful for covering lattice work, verandas, etc., where they are exceedingly effective. Soak the seed for several hours in warm water before planting.

**Major Tall Mixed.**—Attains a height of 15 feet or more, and comes in shades of Rose, Crimson, Blue and White. Pkt. 10c, oz. 20c.

**Minor Dwarf Mixed.**—A beautiful hardy bedding and border plant, attaining a height of about 1 foot. Pkt. 10c, oz. 30c.

**Imperialis (Imperial Japanese Morning Glory).**—The best Morning Glory for strong growth and varying colors. Height, 15 to 20 ft. Pkt. 10c, oz. 30c.



Japanese Morning Glory

**CALLIOPSIS.**—These will grow luxuriantly in any situation and are most useful affording a constant supply of richly marked flowers for cutting. All varieties are annuals.

**Crimson King.**—A rich colored variety producing bloom very freely. Pkt. 10c.

**Radiata Tiger Star.**—A rich and continuously blooming annual with pretty peculiar flowers. The plants reach a height of about 8 inches and form round compact bushes which are throughout the summer literally covered with blooms. Pkt. 10c.

**Tall Mixed.**—Very showy. Height 2 to 3 feet. Pkt. 10c, oz. 30c.

**Drummondii (Golden Wave).**—Large, rich, golden yellow flowers with chestnut-brown centers produced in abundance. Height, 18 inches. Pkt. 10c.

**Tall Single Mixed.**—Pkt. 10c, oz. 35c.

**Tall Double Mixed.**—Pkt. 10c.

**CYCLAMEN.**—A tender, bulbous perennial, used in greenhouses and window gardens. It is easily grown from seed. Sow in the fall or early spring.

**Persicum Giganteum.**—Flowers of extraordinary size. The leaves are proportionately large, marked with silver-grey. Extra choice mixed. Pkt. 35c. Rose White Mixed Pkt. 25c.

**CYPRESS VINE (Ipomea Quamoclit).**—A tender climbing annual with soft fern-like foliage and small star-like flowers. Choice mixed colors. Pkt. 10c.

**DAHLIA.**—Although not generally known Dahlias are easily grown from seed. If planted early in a hot bed and transplanted when danger of frost is past they will bloom the first season and make large bulbs by the next fall.

**Cactus, Choice Mixed.**—Our mixture contains many of the recent novelties. Giants with pointed petals. Pkt. 15c.

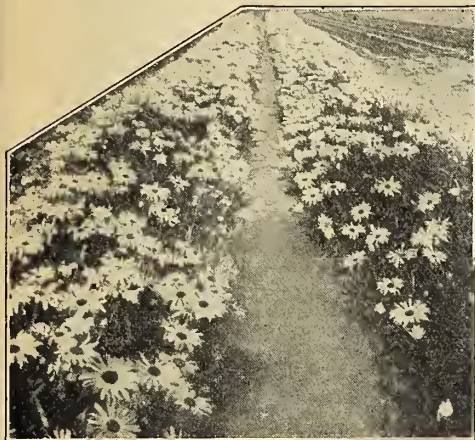
**Double.**—Choice mixed colors in great variety and flowers of excellent form. Pkt. 15c.

**Single Mixed.**—Seed saved from the choicest varieties. Pkt. 10c.



## Shasta Daisy

**DAISY, SHASTA DAISY.**—A fine perennial plant bearing large white single blossoms, with yellow centers. Soak seed in warm water over night before sowing. Pkt. 10c.



Shasta Daisy

**DATURA (Trumpet Flower).**—Tender annual, growing about 3 feet high, flowers large and trumpet shaped. Choice mixed colors. Pkt. 10c.

**DELPHINIUM OR PERENNIAL LARK-SPUR.**—Beautiful, hardy border perennials with noble spikes of handsome flowers; very useful for cut flowers, etc. Sow in the spring or early fall in seed beds or boxes and transplant when large enough.

**Belladonna.**—A lovely turquoise blue, which is a continuous bloomer. Splendid for cutting. Pkt. 25c.

**Blue Butterfly.**—A distinct variety which blooms from seed the first season. The large single spikes are of a rich Salvia Blue and make a splendid cut flower. Height, 18 inches. Pkt. 10c.

**Hybrids Finest Mixed.**—A popular mixture of very pleasing colors. Pkt. 10c.

**DIANTHUS OR PINKS.**—Hardy annuals, about 1 foot high, and bearing beautifully colored single and double blossoms in profusion all summer. Sow seed early in boxes and transplant, or sow in rows where the plants are to remain, and thin.

**Chinensis or Chinese Pink.**—This comes in a large range of colors and is used largely for massing in beds. Mixed.—Pkt. 10c.

**Heddewigi or Japanese Pinks.**—A good variety for bedding or cutting. The single or double flowers are very showy. Single Mixed, Double Mixed, Pkt. 10c.

**Plumarius (Grass Pink).**—Hardy perennial producing large fragrant double, semi-double and single flowers of varied colors. Pkt. 10c.

**DIDISCUS COERULEUS (Or Blue Lace Flower).**—A blue flower which is becoming increasingly popular. Very effective in bouquets or for vase use. Pkt. 15c.

**DIGITALIS OR FOXGLOVE.**—A hardy perennial, blooming the second year from seed. Grows usually about 3½ feet, although in very rich soil sometimes 6 feet. The bell shaped flowers are borne on long spikes, and come in shades of purple, lavender, rose and white, all spotted lightly inside the blossom. Thrives best in cool, shady locations. Fine Mixed—Pkt. 10c.

**DIMORPHOTHECA AURANTIACA.**—The African Daisy. A showy annual from South Africa which has become a great favorite on account of its easy culture and beautifully colored flowers. Pkt. 10c.

**DOLICHOS OR HYACINTH BEAN.**—Tender, climbing annual. Grows rapidly and is valuable for covering a trellis. Flowers in purple or white. Sow seed in open ground late in April.

**Lablab.**—Mixed. Pkt. 10c.

**DUSTY MILLER.**—See *Centaurea Candidissima*.

**EVERLASTING FLOWERS.**—See *Acroclinium*, *Ammobium*, *Gomphrena*, *Helichrysum*, *Statice*.

**EVERLASTING PEAS.**—See *Lathyrus Latifolius*.

**FLAX.**—See *Linum*.

**FLOWERING SAGE.**—See *Salvia*.

**FOUR O'CLOCK (Mirabilis).**—A hardy annual of easy culture, growing about 2 feet high. The plant is free flowering, bearing blooms of a great variety. Mixed—Pkt. 10c.

**FOXGLOVE.**—See *Digitalis*.

**FORGET-ME-NOT (Myosotis).**—A hardy perennial, growing 6 to 12 inches high. Small star-like flowers are borne in clusters on long stems; blooms the first year if seed is sown early. Thrives best in a cool, moist location.

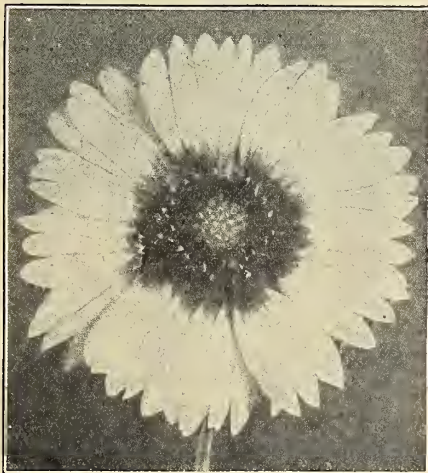
**Alpestris.**—Blue. Pkt. 10c.

**Victoria.**—Large flowers; bright azure blue with yellow center; plant symmetrical, dwarf and strong grower. Pkt. 10c.

**GAILLARDIA.**—Beautiful show plant, remarkable for the profusion, size and brilliancy of its flowers, continuing in bloom from early summer till late in the fall. Excellent for beds, borders, or for cutting. Should be sown where they are to bloom, height 18 inches.

**Grandiflora.**—Single perennial variety of varying shades of reddish brown and yellow. Pkt. 10c.

**Picta Lorenziana Double Mixed.**—Large heads of bright yellow and red flowers. Very double, with quilled petals, suitable for bouquets. Pkt. 10c.



Gaillardia

**GERANIUM.**—A half-hardy perennial, flowering the first year from seed if sown early. A gorgeous flower of numerous shades of color; bearing continuously renders this one of the most popular plants grown.

**Large Flowers of Fancy Show.**—This choice mixture includes many of the newest and finest sorts. Pkt. 25c.

**GERBERA—New Hybrids.**—Large daisy-like blossoms with flower stems rising to a height of about two feet. Colors range from white to crimson, pink, rose, yellow and lilac shades. Flowers both summer and winter. Start carefully under glass and grow in a sandy, well drained soil if possible. Pkt. 25c.



Helichrysum

**Helichrysum, Straw Flower.**—A free-flowering, hardy annual, growing four or five feet high and bearing beautiful straw-like flowers in a great variety of shades and colors. The following are the most popular strains of this well-known flower offered in separate colors.

Salmon Queen

Fireball

Silver Ball

Violet

Pkt. 10c, ¼ oz. 25c.

All Colors Mixed.—Pkt. 10c, ½ oz. 35c.

**GODETIA.**—A hardy annual, 15 inches high, of compact growth, satiny cup-shaped flowers in deep red, pink and white, shaded and blended. Valuable for bedding. Sow seed early in the year.

Dwarf Mixed.—Pkt. 10c.

Tall Mixed.—Pkt. 10c.

**GOMPHRENA.**—Entirely different in appearance from any other everlasting flower, and very attractive. Has a globe-shaped flower.

Mixed Pkt. 10c. ½ oz. 30c.



Gerbera



**GYPSOPHILA (Baby's Breath).**—A hardy annual of easy culture. Grows two or three feet high, and bears a profusion of small star-shaped white and pink flowers.

**Elegans.**—Annual white. Very largely grown by florists for use in bouquets. Pkt. 10c, oz. 30c.

**Elegans Carmine.**—A recent introduction of a deep carmine. Pkt. 10c, oz. 35c.

**Paniculata.**—Fine for bouquets; white flowers perennial. Pkt. 10c.

**HELIANTHUS.**—See Sunflower

**HELIOTROPE.**—A half-hardy perennial growing four to eight feet high. Small flowers, borne in graceful clusters and very fragrant. Blooms the first season from seed if sown early. Forms a large plant and requires a roomy situation.

**Finest Mixed.**—A mixture of the ordinary true types in shades of white, mauve and purple. Pkt. 10c.

**HUNNEMANNIA, OR BUSH ESCHSCHOLTZIA.**—Known also as the Mexican Poppy. An erect-growing, tender perennial, about two feet high. Foliage fine-cut, feathery blossoms, beautifully cup-shaped, bright yellow and about three to four inches across. Stems, long and smooth. Unlike the average poppy, Hunnemannia will keep for several days in water and makes a splendid cut flower. Pkt. 10c.

## A & M Hollyhocks

**HOLLYHOCK.**—A hardy perennial of upright, stately growth, five to eight feet high, unequalled for a background or covering ugly places. Seed sown in seed beds or boxes in the spring. May be planted out when large enough and will bloom the following year. The following are saved from large double-flowering varieties:

Double Maroon	Double Pink
Double Scarlet	Double White
Double Yellow	Double Mixed

Pkt. 10c.

**Perennial Single Mixed.**—Pkt. 10c.

**Allegheny.**—This unique and beautiful variety produces semi-double flowers about 3 inches across. The petals are crinkled and fringed like crumpled and slashed satin. Pkt. 10c.

**New Annual Mixed.**—A new departure in Hollyhocks. Seed sown in the Spring will bloom the first year. Pkt. 10c.



A & M Double Hollyhock

## A & M Moonflower

**IPOMOEA (Moonflower).**—An extensive genus, including many well known garden flowers. These are tender climbing annuals from 5 to 30 feet long. The seed of several varieties, especially the moon flower, should have the outer shell punctured and then soaked in water for twelve hours or more to germinate it.

**Bona Nox (Evening Glory).**—Rosy lilac flowers, expanding in the evening; of very rapid growth. Pkt. 10c.

**Coccinea.**—Brilliant scarlet flowers with small foliage. Pkt. 10c.

**Grandiflora Alba**—(White Moonflower). Perennial. Pkt. 10c.

**Heavenly Blue.**—Annual. A pleasing light strain. Pkt. 10c.

**Leari (Blue Moonflower).**—Perennial. Pkt. 10c.



KUDZU VINE (*Pueraria Thumbergiana*).  
2 years old.

Nothing better than the Kudzu for a rapid growing vine for an arbor; besides, it may be trimmed frequently for stock feed. All kinds of animals eat it readily. It is especially good for milch cows and goats. (Pkt. 10c).

When near 6th and Spring, step in to see the Gold Fish and Canaries.

**LANTANA.**—Tender perennial, growing from 3 to 5 feet high, bearing Verbenalike clusters of flowers, in orange, white, rose and other colors; excellent for bedding.

**Choice Mixed.**—Pkt. 10c.

**LATHYRUS LATIFOLIUS (Everlasting Pea).**—A hardy, perennial climber of great beauty with elegant sweet pea-like flowers in great profusion; height, 6 to 8 feet.

**Fine Mixed.**—Pkt. 10c.

**LINUM, OR SCARLET FLAX.**—A hardy annual, about one and one-half feet high. Of slender and graceful appearance, with smooth stems and bright red flowers, which are borne in great profusion. Can be sown early out of doors, and thrives well in good soil.

**Rubrum.**—Pkt. 10c.

**IPOMOEA IMPERIALIS.**—See Convolvulus.

**IPOMOEA QUAMOCLIT HYBRIDA.**—See Cardinal Climber.

**JOB'S TEARS.**—See Coix Lachryma.

**KOCHIA TRICOPHYLLA (Summer Cypress).**—A splendid ornamental annual plant, forming dense oval bushes, 2 to 2½ feet high, of small, feathery light green foliage. As summer advances this changes to a carmine hue and finally to a fiery red. A very attractive plant at all times. Also called "Burning Bush." Pkt. 10c, oz. 25c.

**LOVE-IN-A-MIST.**—See Nigella.

**LUPINS (or Lupinus).**—In spite of the fact that our Lupin is one of the most common of our native flowers, many people still grow it for its beauty.

**Dark Blue.**—A counterpart of Roseus, but having spikes of large deep blue flowers. Pkt. 10c, oz. 30c.

**Roseus (Rose Color).**—A very attractive variety, and one which should find a place in every flower garden. Pkt. 10c, oz. 30c.

**Annual Mixed.**—Height 2 feet. Pkt. 10c, oz. 30c.

**Perennial.**—A splendid tall variety bearing long spikes of flowers.

**Mixed.**—Pkt. 15c.

**LOBELIA.**—A hardy annual and perennial. The annual grows four to six inches high, is of compact growth, and literally covered with small bright flowers. By cutting back the plants during the summer and giving plenty of water they may be kept in flower all summer. Used for ribbon work and borders of hanging baskets.

**Bernard's Perpetual.**—Flowers brilliant ultramarine blue, with a pure white mark at the base of each one of the two lower petals; height, 6 inches. Pkt. 10c.

**Crystal Palace.**—Undoubtedly the finest dwarf blue Lobelia for bedding. Plants very compact, profusely covered with rich, blue flowers. Height, 4 inches. Pkt. 10c.

**Hamburgia.**—A trailing variety specially suited as a graceful plant for hanging baskets. Light blue. Pkt. 10c.

**Erinus Speciosa.**—Dark bronzy green foliage. Deep blue flowers. Trailing. Pkt. 10c.

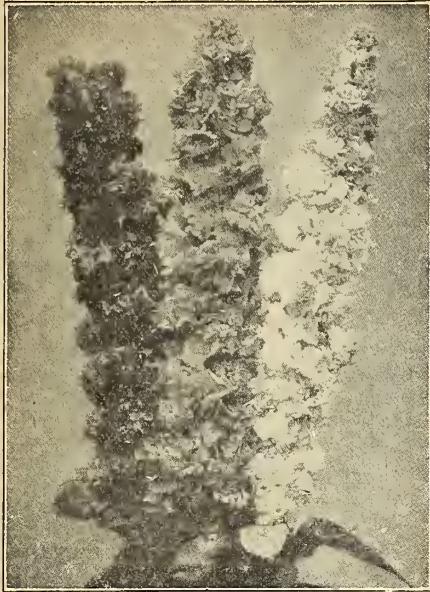


Lobelia Crystal Palace

**MARVEL OF PERU.**—See Four O'Clock.

**MATHIOLA BICORNIS (Night Scented Stocks).**—An annual growing about one foot high giving a sweet perfume in the evening. Pkt. 15c.





A &amp; M Larkspur Mixed

## MARIGOLD

A & M strains of Marigold are becoming increasingly popular, and below we offer varieties which are most in demand.

**MARIGOLD.**—A hardy annual, in dwarf and tall varieties, growing from 6 inches to 3 feet high. The flowers are various shades of yellow and brown. The tall varieties are very valuable for large bedding or background work, and the dwarf varieties for borders.

**African Tall Double Orange.**—Beautifully formed flowers of gigantic size and bright color; height, 2½ feet. Pkt. 10c.

**African Tall Double Lemon.**—Like the above but a pure citrus yellow. Pkt. 10c.

**African Tall Double Mixed.**—Pkt., 10c.

**African Dwarf Double Mixed.**—Pkt. 10c.

**French.**—The flowers are much smaller than the African, but are greatly prized for bedding.

**Tall French Mixed.**—In shades of yellow, brown and tricolors. Height, 2 ft. Pkt. 10c.

**Dwarf French Mixed.**—Like the above but only 10 inches high. Pkt. 10c.

**Dwarf French Legion of Honor.**—The color is a dark velvety brown, gracefully surrounded by a distinct gold ring. The compact, bushy plant flowers abundantly and is more lasting than any other annual. Pkt. 10c.



A &amp; M African Tall Marigold

## A & M Larkspur

Are the finest strains and produce a wonderful show in any garden. The double flowering varieties, with their long spikes, are excellent for cut flowers. They should be planted in beds, or as a background for other smaller plants. With the great variety of colors one may carry out most any color scheme desired, and the bright shades will add a touch of beauty to the garden that will be a pleasure to note. They are easily grown and we know of nothing that will produce a greater show. By all means include a general assortment of A. M. Larkspur in your garden for early spring blooming.

### Lustrous Carmine

An entirely new shade of bright rosy carmine. It is very pretty and decorative. **Packet 10c, ½ oz. 35c.**

### Double Stock Flowered

We have these in separate colors of blue, white, lilac, sky blue and mixed colors. **Packet 10c, oz. 40c.**

**MATRICARIA, (Fever Few).**—A splendid cutting flower, easily grown.

**White.**—Pkt. 10c.

**Golden Ball.**—Pkt. 10c.

**MIGNONETTE.**—Hardy annual, growing 6 to 12 inches high and bearing pyramid-shaped spikes, exceedingly fragrant. Sow in the fall for early blossoms in the spring. Valuable for plotting, bedding or border.

**Allen's Defiance.**—Long spikes of whitish flowers and compact growth. Pkt. 10c.

**Goliath Red.**—Robust growing variety with enormous spikes of red colored flowers; height, 15 inches. Pkt. 10c.

**Machet Mixed.**—A dwarf compact variety, with large stubby spikes covered with copper-red flowers. Pkt. 10c.

**Sweet Scented (Reseda Odorata).**—Pkt. 10c, oz. 25c.

**MIMULUS.**—A half hardy perennial, growing 1 foot high. Blooms freely and exists in a large variety of colors. For gardens in a moist shady situation. Blooms first year from seed if sown early.

**Tigrinus, or Monkey Flower.**—Large flowers of several colors, and spotted. Pkt. 10c.

**MINA LOBATA.**—A showy hardy annual climber, bearing flowers of a brilliant red, changing to a pale yellow. Pkt. 10c.

**MOONFLOWER.**—See Ipomoea.

**MOURNING BRIDE.**—See Scabiosa.

**MYOSOTIS.**—See Forget-Me-Not.

**MORNING GLORY.**—See Convolvulus.

**MOMORDICA (Balsam Apple).**—A climbing annual, growing about 10 feet long. Has graceful and ornamental foliage, yellow flowers and warted golden yellow fruit, with large carmin-red seeds. Balsam Apple and Balsam Pear are climbers which thrive in hot locations, and are much planted around Bakersfield. Pkt. 10c.

**Charantia, or Balsam Pear.**—Same as the Balsam Apple, but fruit is pear-shaped. Pkt. 10c.

**NEMESIA STRUMOSA SUTTONI.**—Hardy Annual. This flower is obtainable in numerous shades of beautiful colors, and when grown in mass form, gives a fine effect. Sow in a seed bed early in the spring and transplant.

**Mixed.**—Pkt. 25c.

**NEMOPHILA.**—A hardy annual about six inches high. Has small, cup-shaped blossoms about one inch in diameter, in white and shades of blue.

**Insignia (Baby Blue Eyes).**—Sky blue, with white eyes. Pkt. 10c.  
**Choice Mixture.**—Pkt. 10c.

**NICOTIANA, OR FLOWERING TOBACCO.**—A half hardy annual, growing 3 feet high, with slender tubular flower. Belongs to the tobacco family. Requires plenty of room in the garden.

**Affinis.**—White, and very fragrant. Pkt. 10c.

**Sanderea.**—A new, large flowering type, with various bright-colored blossoms. Pkt. 10c.

**NIGELLA (or Love-in-a-Mist).**—A hardy annual, one foot high, with finely cut foliage. Oddly shaped blossoms in blue and white, and curious seed pods. Of easy culture.

**Miss Jekyll.**—Long stemmed flowers which are of a clear corn-flower blue; elegant foliage; height, 18 inches. Pkt. 10c.



Passiflora Edulis.

**PASSION FLOWER.**—A hardy perennial climber, very satisfactory for immense growth, as it will cover a porch or small cottage in one season.

**Coerulea Grandiflora.**—Sky-blue. Pkt. 10c.





A &amp; M Nasturtium Dwarf

**PASSIFLORA EDULIS.**—The vine is a very rampant grower, blooms freely. The pulp of the fruit is delicious. Pkt. 10c.

#### PENTSTEMON

**Hartwegi Hybrids Mixed.**—The large Gloxinia shaped blooms vary from pure white, pink, rose and crimson to mauve and purple, including many which are beautifully edged. Hardy perennials. Height, 2 feet. Pkt. 10c.

**PORTULACA.**—Beautiful race of dwarf plants for rock work or dry sunny locations, bearing glossy cup-shaped blossoms in brilliant colors. Annual.

**Double Mixed.**—Saved from the finest flowers only, and will produce a large percentage of doubles. Pkt. 15c.

**Single Mixed.**—Large flowers. Pkt. 10c.

#### PRIMULA.

**Giant Flowered Mixed.**—This charming flower is a welcome addition to our winter blooming plants. Should be grown in pots and the best results are obtained when the seed is started in greenhouse. Sow in March to May and again in July to August for a succession of blooming plants. Pkt. 35c.

### A & M Petunias

**PETUNIA.**—A splendid race of plants, rich and varied colors, and profuse flowering with their charming and tender looking flowers, they are very beautiful for groups in the open. Sow seed early in spring, scatter thinly on an even surface and barely cover the seed with sand. If intended for the open ground, plant out into a frame to be kept until planting-out time. If for pots, pot singly into small pots in strong, rich soil mixed with sand and shift as the plants grow larger.

**Superb Double Fringed Mixed.**—One of the finest strains of Petunias in existence. The double flowers are very large full and symmetrically formed, having the edges of the petals beautifully fringed. Pkt. 50c.

**Giants of California.**—A California introduction. An extremely fine type of this well known flower. A mixture which will be appreciated by all growers of Petunias. Pkt. 35c.

**Ruffled Giant Petunias.**—A beautiful, deep throated new strain with flowers that are ruffled, fluted and fringed. Solid intense colors. Pkt. 25c.

**Grandiflora Single Mixed.**—Exceedingly handsome and free flowering, containing the greatest variety of colors, yellow throated, veined and blotched. Very large flowers. Pkt. 15c.

**Hybrida Fine Mixed.**—The best Petunia for massing in beds and borders, yielding a profusion of brilliantly marked flowers. Pkt. 10c.

### A & M Nasturtiums

These favorite and well known flowers are popular because of the great variety of colors which may be obtained with very little labor. They are not particular as to soil, fertility or cultivation and may be seen at the beach resorts growing in banks of pure sand where they get little or no attention. If you have an unsightly spot, plant A & M Nasturtiums and convert it into a beauty spot. The Dwarf varieties may be used for bedding and borders while the tall or climbing varieties may be used for covering unsightly fences and fence corners. The Nasturtium is known to most every one but few people appreciate its real value for the uses we have described. They will bloom in a few weeks after planting and will continue until cut down by the frost. A & M Nasturtiums are blended in pleasing mixtures and carry a great variety of color.

A & M Dwarf mixed, packet 10c, oz. 20c.

A & M Tall, mixed, packet 10c, oz. 20c.

### A & M Poppies

**POPPIES.**—The different varieties of poppies are always favorites for outdoor display and the cultivation of them being so extremely simple entitles them to a place in every garden. Seed should be sown where the plants are intended to flower, because it is difficult to transplant them with any measure of success.



Poppy Shirley

**Carnation Flowered Double Mixed.**—Choice assortment of brilliant colors. Flowers very double and well fringed. The plants grow to a height of 4 feet and bear immense carnation-like blooms 6 to 8 inches across. Annual. Pkt. 10c.

**Flanders Poppy.**—The famous poppy of Flanders Field. A single annual of blood red color. Abundant in the fields of Europe. Pkt. 10c.

**Glaucum (Tulip Flowered).**—Beautiful variety, producing flowers of the most vivid scarlet, effective for beds or masses. Annual. Pkt. 10c.

**Nudicaule, Iceland Poppy.**—A beautiful class of perennial poppies. Sow in March and they will flower the same year. The beautiful large blossoms are borne on wire-like stems above the beautiful fern-like foliage, with a great variety of colors. The Iceland Poppy has more lasting qualities, as a cut flower, than any other poppy.

**Yellow.**—Pkt. 10c.

**Single Mixed.**—Pkt. 10c.

**Double Mixed.**—Pkt. 10c.

**Oriental Hybrid Mixed.**—An early flowering strain producing a variety of the most brilliant colors. Perennial. Pkt. 10c.

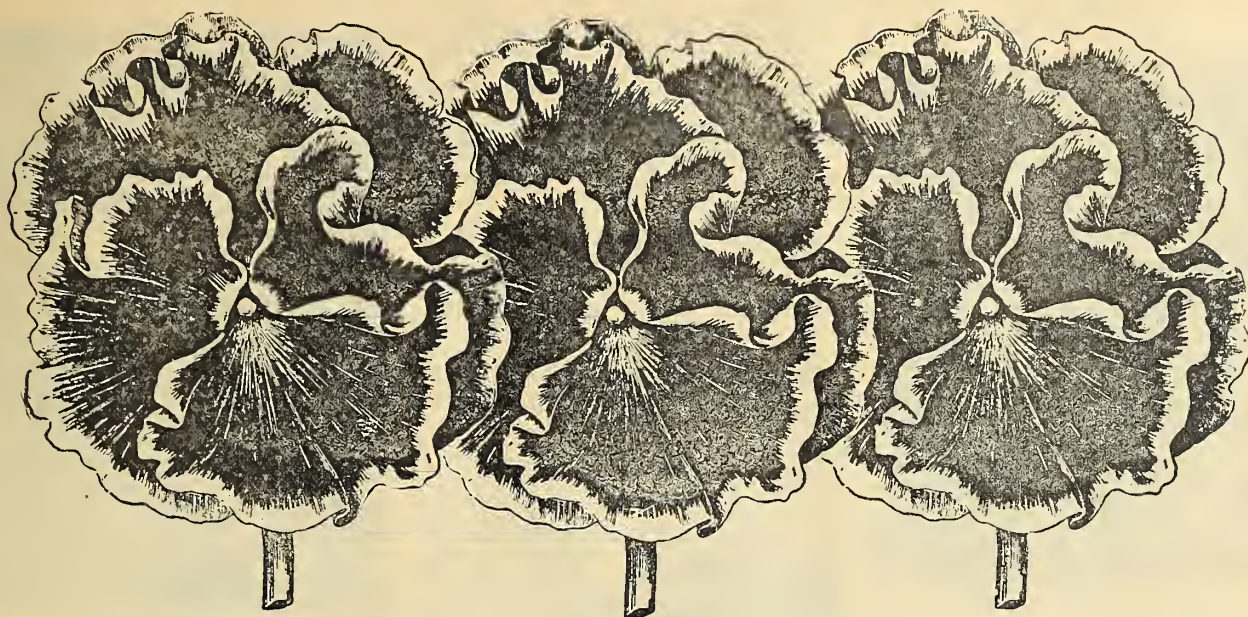
**Peony Flowered Double Mixed.**—Annual. Immense double globular flowers. Splendid for bedding and massing. Choice mixture. Pkt. 10c.

**Shirley Annual.**—The most charming poppy in cultivation. The blossoms are bright and showy and include an almost endless variety of colors, from pure white, pink, terra cotta, salmon, charmois and rosy carmine, to brilliant crimson, many of the flowers being beautifully flaked or edged with white. Pkt. 10c, oz. 45c.



Ruffled Giant Petunias.





## Mastodon Pansies

These magnificent giant pansies are without a doubt, the most wonderful pansies of the day, with a robust vigor unknown in any other strain. These blossoms are almost four inches across and are of a most wonderful variety of colors and variegations. They bloom from two to four weeks earlier than any other variety of pansies. It is impossible to paint a word picture that will do justice to these flowers. You will never regret it, if you have them in your garden or porch box.

**Adonis.**—Lovely Sky-blue. Pkt. 25c.

**Bronze Mastodon.**—Very large, with all the different shades from burnished brass to gold, with no two flowers exactly alike. Pkt. 25c.

**Madame Steele.**—Elks Purple, of fine form and enormous size. Pkt. 25c.

**Panama Pacific.**—A huge deep yellow; some have the dark center, some without. A beautiful bedding color. Pkt. 25c.

**White Mastodon.**—Snow white with a large center, very large and beautiful. Pkt. 25c.

**Mastodon Mixed.**—A wonderful collection of rich velvety shades, in great variety, with fine long stems. Pkt. 25c.

Pansies thrive best in a moist, sunny location and in rich loamy soil. Seed should be sown in the autumn for early spring blossoms, or can be sown early in the year for good flowers later in the spring. The plants must be transplanted twice in order to get the largest flowers; once from the seed box to a chosen bed, and again to the open garden. This is important for large size pansies; use manure liberally. The blossoms are usually larger in the spring and again in the fall, and while they bloom freely all summer, the blossoms are small during the hot months.

### A & M GIANT STRAINS

We offer Pansies in the following separate colors. They have been selected with care in order to give a complete range of colors from which to choose. Wonderful color effects and an abundance of plants can be had from planting a few packets from the following:

**Special offer**—Your choice of ten regular 15c packets, \$1.00.

**Giant Aurora.**—Probably the best pure white of the Giant strain. Pkt. 15c.

**Giant Azure Blue.**—Gigantic blooms of a delicate pale blue shade, freely produced on compact plants. Pkt. 15c.

**Giant Bridesmaid.**—Shades of white shining rose, blotched. Pkt. 15c.

**Giant Eros.**—This grand novelty produces very large flowers of a deep velvety brown color, with a broad golden yellow margin. The back of each bloom has the same broad margin as the front side, while the dark velvety center is shining through. Pkt. 15c.

**Giant Golden Queen.**—A very pleasing shade of golden colored flowers, carried on good length stems. Pkt. 15c.

**Giant Madam Perret.**—A variety of unusually compact habit. The lower petals are pale with rich rose color markings. Pkt. 15c.

**Giant Prince Henry.**—Darkest blue, very large beautiful flower. Pkt. 10c.

**Giant Psyche.**—Not many of the pansy varieties have such a winning appearance as Psyche. The characteristic five velvety, violet blotches are surrounded by a broad white edge. It is an ideal exhibition or market pansy. Pkt. 15c.

**Giant Ruby Red.**—Very large blooms in striking red shades. Pkt. 15c.

**Giant White (Purple Eye).**—Large well formed flowers with black center. Pkt. 15c.

**Giant Yellow (Black Eye).**—Large handsome flowers of a rich yellow with black eye. Pkt. 15c.

**Masterpiece—"Ruffled Pansy."** A splendid new class. The petals have the appearance of fluted velvet. The colors are rich and varied, and the plants hardy and vigorous growers. Pkt. 25c.

**New Giant Orchid Flowering.**—A beautiful strain in rare shades. A quick bloomer and very fine. Pkt. 15c.

**Giant Trimardeau or French Mixed.**—A very showy class of vigorous compact growth, flowers of an enormous size; finest strain. Pkt. 15c.

### CHICAGO PARK BEDDING VARIETIES

**Cardinal.**—Rich shade of red. Pkt. 10c.

**Golden Gem.**—Large pure yellow. Pkt. 10c.

**Faust (King of Blacks).**—Large, well formed, glossy black flowers. The plants are compact and bloom for a long time. Pkt. 10c.

**Peacock.**—Handsome flowers of a rich purple. Pkt. 10c.

**White (Black Eye).**—Large well formed flowers with black center. Pkt. 10c.

**Fine Mixed.**—A splendid mixture for bedding. Pkt. 10c.

**TUFTED PANSY.**—See Viola Cornuta.



## A & M Phlox



Phlox

**PHLOX DRUMMONDII**, *Grandiflora*.—A hardy annual, growing from six inches to one foot high and bearing beautiful soft-petaled and brilliantly colored flowers all spring and summer. Fine for bedding and massing. Sow seed in the open ground.

**Drummondii Fireball**.—Habit similar to the Snowball; color brilliant red; flowers profusely. This and Snowball are two of the most effective varieties of Phlox in existence. Height, 1 foot. Pkt. 10c.

**Drummondii Flesh**.—A delicate pleasing shade of pink. Pkt. 10c.

**Drummondii Dwarf Snowball**.—A dwarf compact and very free blooming Phlox. Flowers large and pure white. An excellent companion to Fireball. Height 1 foot. Pkt. 10c.  
Finest Mixed—Pkt. 10c.

**STAR PHLOX**.—An excellent sort for dwarf groups and for pots. Height 1 foot. Pkt. 10c.

**PERENNIAL**.—Indispensable for border plant. Seed saved from the finest bright colored flowers. Height, 2 feet. Pkt. 15c.



Salpiglossis

**RICINUS** (Castor Oil Plant).—Effective for semi-tropical garden. Easily raised from seed, and should be grown in deep, rich soil.

**Sanguineus**.—Blood red stalks and red fruit. Height 8 feet. Pkt. 10c, oz. 25c.

**Zanzibariensis**.—The giant type of the Castor Bean. Foliage varies in shades of color during the different stages of growth. Being a strong grower very suitable as a windbreak. Pkt. 10c, oz. 25c.

**ROMNEYA COULTERII** (California Tree Poppy).—Also well known as the Matilija Poppy; perennial. It is of value as a cut flower, lasting well in water, and its delicate primrose-like perfume is most acceptable. They never lose the crumpled folds that in the case of most poppies betoken newly opened state. Flowers are four to five inches across, pure white, with a fine bunch of yellow stamens, resembling white, single Paeonies. Pkt. 10c.



Scarlet Runner

**SCARLET RUNNER**.—A variety of climbing bean having rich scarlet blooms and most useful for decorative purposes in covering arbors and unsightly structures. The pods are also appreciated as an addition to the vegetable list. Pkt. 10c.

**RUDBECKIA** (Golden Glow).

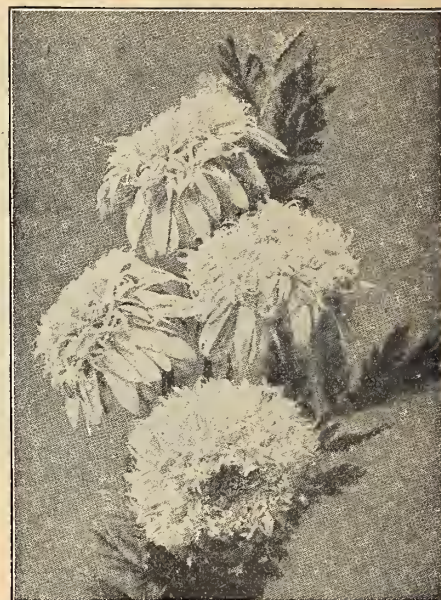
**Coneflower**.—Fine free flowering perennial variety, forming a dense bush and producing in great abundance on long stems its bright flowers. The flowers golden yellow. Very effective and useful for cutting. Pkt. 10c.

**SALPIGLOSSIS**

**Fine Mixed**.—Highly ornamental half-hardy annual with large, veined, funnel-shaped flowers; much prized for cutting; very showy in beds or border. A bed of these beautiful plants is one of the most striking features of the garden during July and August. Pkt. 10c.

**SALVIA, OR FLOWERING SAGE**.—A tender perennial blooming the first season from seed and growing two or three feet high. The blossoms are borne on long stems in racemes or spikes, and are fragrant.

**Splendens**.—Gorgeous plants, with numerous flowers, which are displayed with striking effect against the deep green foliage. A bed of this flower is exceedingly beautiful during the autumn. Height 2 feet. Pkt. 10c.



Pyrethrum.

**PYRETHRUM**.—Handsome plants of easy culture. Invaluable for bedding purposes, especially for ribbon borders. A hardy perennial.

**Golden Feather**.—Fine compact habit of growth, with bright yellow foliage, largely used for edgings and ribbon borders. Height, 9 inches. Pkt. 10c.

**Roseum Hybridum**.—A hardy perennial, with red petaled flowers radiating from a golden yellow center. Buhach, or insect powder, is made from the dry leaves. Useful as a cut flower. Height, 15 inches. Pkt. 10c.

**STATICE**.—An everlasting flower deserving far greater popularity. Large sprays of many colored small flowers which when dried make fine winter bouquets.

**Sinuata**.—Blue, Roses, White, Yellow, mixed. Pkt. 10c.

**Latifolia**.—A large branching variety well suited for the perennial border. Also invaluable as a cutting variety. Pkt. 10c.

**Caspia**.—New, very fine sprays of pale blue flowers. Pkt. 10c.

**SWEET WILLIAM** (*Dianthus Barbatus*).—A hardy perennial blooming the second year from seed. Grows one to two feet high and bears its flowers in clusters, at the end of a stiff stem. The individual flowerlets are handsomely colored and marked. It makes a beautiful bedding plant, and is of easy culture.

**Single Varieties, Mixed**.—Very attractive. Pkt. 10c.

**Double Varieties, Mixed**. Pkt. 10c.



Sweet William



# Sweet Peas

We are headquarters for strictly high-grade Sweet Pea Seed; they are the best that money can buy.

**CULTURE.**—Sweet Peas will thrive on most any kind of soil if enriched with well-rotted manure, but a heavy clay soil produces best results. Ample arbor needs should be provided to attain highest perfection of bloom. The vines will grow eight feet tall and become a solid mass of bloom, which should be cut every day to prolong the life of the plant. Apply from time to time some A & M Plant Food, and water abundantly, but see that there is good drainage, that the roots do not rest in wet, sour earth.



**JACK CORNWELL V. C.**—Giant midnight blue. A wonderful new shade. Flowers are beautifully wavy. Pkt. 25c, oz. \$1.50.

## NEW GIANT SPENCERS

**Constance Hinton.**—A giant frilled Black-Seeded White. The stems, bearing four immense blossoms, are often 12 inches in length. Undoubtedly the best White Sweet Pea. Pkt. 15c, oz. 60c.

**Fiery Cross.**—Giant waved flowers of an intense Orange Scarlet. The color is not at all affected by our hot California sunshine, and therefore needs no shading. Pkt. 20c, oz. 75c.

**Illuminator.**—A glowing Cerise-Salmon shaded with bright orange. The flowers are large and wavy. One of the most beautiful new Spencers. Pkt. 15c, oz. 60c.

**Irish Belle.**—A lovely lilac flushed pink. A delightful addition to any bouquet. Large and waved. Pkt. 15c, oz. 60c.

**Warrior Spencer.**—Deep Chocolate, almost black, unequalled for mixing with other shades for bouquets and table decoration. The darkest Sweet Pea yet introduced. Pkt. 15c, oz. 60c.

**Barbara.**—Beautiful salmon self flowers borne on long stems. Pkt. 25c, oz. \$1.00.



**La France.**—A new introduction. Lovely shrimp pink. A splendid variety for cutting. Pkt. 25c, oz. \$1.50.

## Spring Flowering Giant Spencers

**America.**—Scarlet striped with white. Pkt. 15c, oz. 45c.

**Apple Blossom.**—Standard bright rose, wings primrose with a flush of pink. Pkt. 15c, oz. 45c.

**Asta Ohn.**—Soft pinkish lavender self. Very large and wavy. Pkt. 15c, oz. 45c.

**Blanche Ferry.**—Pink and white. An old favorite. Pkt. 15c, oz. 45c.

**Blue Monarch.**—Dark blue. An improved blue. Pkt. 15c, oz. 60c.

**Clara Curtis.**—Very large wavy cream or light primrose. Pkt. 15c, oz. 45c.

**Countess.**—"Hybrid," a very large flowered variety, a lovely shell pink. Flowers usually four on a stem. Pkt. 15c, oz. 45c.

**Dainty Spencer.**—White with pink wavy edges. Pkt. 15c, oz. 45c.

**Elfrida Pierson.**—Shell pink with immense waved blossoms. Pkt. 15c, oz. 45c.

**Etta Dyke.**—Very large wavy, pure white. Pkt. 15c, oz. 45c.

**Florence Morse.**—Delicate blush with pink margin; very large and one of the best Spencer varieties. Pkt. 15c, oz. 45c.

**Florence Nightingale.**—A soft bluish lavender, well frilled and waved. Pkt. 15c, oz. 45c.

**Helen Lewis.**—Standard orange, wings salmon. Pkt. 15c, oz. 45c.

**King Edward.**—Most beautiful and richest of all the red shades. This large waved flower stands by itself; a bright crimson. Pkt. 15c, oz. 50c.

**King Manuel.**—The largest deep maroon. Pkt. 15c, oz. 45c.

**King White.**—This variety is called "the Perfect" White Spencer. Pkt. 15c, oz. 45c.

**Lovely.**—True to its name. A delicate rose and flesh. Pkt. 15c, oz. 60c.

**Marie Corelli.**—A large wavy bright rose. Pkt. 15c, oz. 45c.

**Maud Holmes.**—Fine crimson self. Pkt. 15c, oz. 45c.

**Miriam Beaver.**—(New) Light apricot and buff. Large and waved. Pkt. 20c, oz. 60c.

**Mrs. Hugh Dickson.**—A lovely salmon-pink on cream gives effect of rich apricot. Very fine. Pkt. 15c, oz. 45c.

**Mrs. Routzahn.**—Apricot suffused with pink. Pkt. 15c, oz. 45c.

**Othello.**—Large wavy maroon. Pkt. 15c, oz. 45c.

**Queen Alexandria.**—One of the best scarlet self Spencers. Pkt. 15c, oz. 45c.

**Royal Purple.**—Deep rich color, large. Pkt. 15c, oz. 60c.

**Sterling Stent.**—Salmon orange. A profuse bloomer. Pkt. 15c, oz. 45c.

**Sunproof Crimson.**—A brilliant color. Holds its color well and is one of the best. Pkt. 15c, oz. 60c.

**Giant Spencer Mixed.**—A splendid mixture of all the different Spencer types. Pkt. 15c, oz. 30c.

## Winter Flowering Sweet Peas

A valuable race of early flowering sweet peas, which from an early sowing will give an abundance of blooms from Christmas onward. On account of their delightful perfume, sweet peas are particularly welcome during the days of winter.

### EARLY FLOWERING SPENCERS.—

**Bohemian Girl.**—Deep Pink. Pkt. 25c, oz. \$1.00.

**Blanche Ferry.**—Pink and white. Pkt. 25c, oz. \$1.00.

**Wedgwood.**—Bright Blue. Pkt. 25c, oz. \$1.00.

**White Orchid.**—Pure White. Pkt. 25c, oz. \$1.00.

**Yarrowa.**—Rose, light wings. Pkt. 25c, oz. \$1.00.

**Apricot Orchid.**—Buff Pink. Pkt. 25c, oz. \$1.00.

**Asta Ohn.**—Lavender. Pkt. 25c, oz. \$1.00.

**Fire King (New)**—Orange Scarlet. Pkt. 35c.

**Glitters (New)**—Bright Orange. Pkt. 50c.

**Liberty.**—Crimson. Pkt. 25c, oz. \$1.00.

**Song Bird.**—Pale bluish pink. Pkt. 25c, oz. \$1.00.

**Mixture of above colors.** Pkt. 25c, oz. 90c.

### A & M XMAS GRANDIFLORA.

**Christmas Pink.**—White and Pink.

**Christmas White.**

**Earliest of All.**—White and Rose.

**Mrs. Alex Wallace.**—Lavender.

**Mrs. F. J. Dolansky.**—Self Pink.

**Christmas Mixed.** Pkt. 10c, oz. 25c.

## "Rainbow Collection"

Of A & M Giant Spencers

Red, Pink, Orange, Yellow, Lavender, Blue and Purple.

Seven separate colors.

Seven separate packets.

The Collection 75c.

"The Sweet Peas I grew from your seed last year were the finest in my neighborhood."

"MRS. WESTALL, Calif."

## Selected Grandiflora Types

The hooded type of Sweet Peas which are much more fragrant than the Spencers, though lacking in size of bloom.

Pkt. 10c, oz. 20c.

**Brilliant Blue.**—Deep blue.

**Dorothy Eckford.**—Large white.

**Emily Henderson.**—Early white.

**Hon. Mrs. Kenyon.**—Primrose.

**Lady Grisel Hamilton.**—Lavender.

**King Edward VII.**—Bright red.

**Miss Wilmott.**—Orange pink.

**Prima Donna.**—Pale soft pink

**Superb Mixture.**—Pkt. 10c, oz. 15c.



## A & M IMPROVED STRAINS OF DOUBLE FLOWERING STOCKS



**STOCKS.**—The stock is one of the many popular plants used for bedding. For brilliancy and diversity of color, fragrance, profusion and duration of bloom it is unsurpassed. Sow the seed in pans or boxes and transplant when large enough to an open sunny location. Be careful to save the weak and delicate plants, as these usually throw the best doubles. It is also a good idea to plant rather thickly so that the single can be weeded out as they appear. The seed can only be saved from single flowers, but as we purchase from the most reliable growers, our stocks produce a large percentage of doubles.

**STOCK, NICE.**—An intermediate type, very useful for winter flowering if planted in the fall. Seed sown in February or March continue to bloom well on into the summer. Height 18 inches.

**Giant Abundance.**—Very large spikes of Carmine Rose flowers. Pkt. 15c.

**Giant Almond Blossom.**—Quick growth with flowers of a very large size. The color is white shaded carmine. Pkt. 15c.

**Giant Apple Blossom.**—A pleasing combination of pale rose and pink. Pkt. 15c.

**Giant Beauty of Nice.**—A flesh pink strain. One of the most popular of Nice varieties. Pkt. 15c.

**Giant Cote d'Azur.**—Light violet blue, a very desirable shade. Pkt. 15c.

**Giant Crimson King.**—Long Spikes, of a rich crimson color. Pkt. 15c.

**Giant Mont Blanc.**—As its name implies, it is a white variety, very free flowering. Pkt. 15c.

**Giant Monte Carlo.**—Canary Yellow. Pkt. 15c.

**Giant Old Rose.**—A lovely color. Pkt. 15c.

**Giant Purple.**—A deep rich color. Pkt. 15c.

**Giant Queen Alexandria.**—Long spikes of rosy lilac. Pkt. 15c.

**Finest Giant Mixed.**—All colors. Pkt. 15c.

**Dwarf Double Ten Week.**—This dwarf variety is splendid for edging, carpet bedding, borders, and cut flowers. The different shades make very pleasing color effects. Height 12 inches

White	Rose	Crimson
Blue	Purple	Canary Yellow
Light Blue	Dark Blue	Finest Mixed

Each—Pkt. 10c.

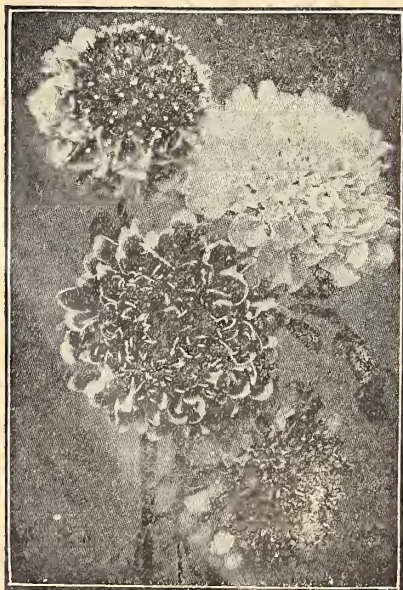
**Giant Perfection or Dresden.**—Of branching habit with long stems which makes this variety very useful as a cut flower. The mixture contains 8 or more different colors. Height, 2 feet.

Carmine      White      Mixed  
Pkt. 10c.

**SCHIZANTHUS.**—Very beautiful and interesting annuals. This is one of the earliest annuals to raise from seed. Sow in the open where plants are to flower. Exceptionally beautiful when in full bloom and literally covered with small orchid-like flowers.

Mixed.—Pkt. 10c.

**SWEET SULTAN.**—See *Centaurea Imperialis*.



Scabiosa

## A & M Scabiosa

### SCABIOSA, OR MOURNING BRIDE—

These tall flowers are especially adapted for cutting and massing in the garden, also good as a background where a color effect is desired. Height 4 feet.

**Azure Fairy.**—A beautiful shade of light blue. A great favorite. Pkt. 10c.

**Black Prince.**—A very deep purple, almost black. Unique. Pkt. 10c.

**Crimson.**—Very effective. Pkt. 10c.

**Fiery Scarlet.**—A very brilliant flowered variety. Grown in mass form presents an extremely striking appearance. Pkt. 10c.

**Rose.**—Produces flowers of a pleasing shade. Becoming increasingly popular. Pkt. 10c.

**Snowball.**—Large head of lovely pure white flowers. Pkt. 10c.

**Tall Double Mixed.**—Immense flowers; very double, contains twelve or more different shades. Pkt. 10c, 1/2 oz. 35c.

**Caucasica.**—A highly decorative perennial variety. Flowers large and of a soft lavender or heliotrope shade. Especially valuable for cutting, lasting a long time in water. Pkt. 10c.

**SENSITIVE PLANT.**—An interesting plant, the leaves of which close when touched; elegant foliage; flowers pink. Pkt. 10c.

**SHASTA DAISY.**—See Daisy.

**SMILAX.**—A perennial vine which thrives best in a shady location. Very useful for decorative purposes. Pkt. 10c.

**SNAPDRAGON.**—See *Antirrhinum*.



New Red Sunflower

**SUNFLOWER (Helianthus)**—Stately, hardy annuals of easy culture. Useful for background or as a fence, and often grown for the seed. Height, 6 to 8 feet. **California Double.**—Large, massive, bright yellow flowers, height 6 feet. Pkt. 10c.

**New Red Sunflower** is a very apt description of this new variety. The plant is of a freely-branching habit, with well-shaped dark-centered flowers of bright chestnut red, merging to a yellow at the tips of the petals. Height 6 feet. Pkt. 10c.

**Miniature Mixed.**—This is a splendid cutting variety of many different colors which blend together beautifully. Pkt. 10c.



## A & M Verbenas

**VERBENA.**—A half hardy trailing perennial of easy culture. It is well known as a bedding or border plant, and the improved large flowered and fragrant strains make it a handsome cut flower for low vases.

### Lucifer

**Lucifer (New)** Brilliant scarlet. No eye; a mammoth strain. Pkt. 15c.

**Firefly.**—A bright scarlet with white eye. Pkt. 15c.

## A & M Mammoth Verbenas

**Defiance.**—A deep scarlet. Pkt. 10c.

**Mammoth Blue.**

**Mammoth Pink.**

**Mammoth Purple.**

**Mammoth White.**

**Mammoth Hybrida Mixed.**

Pkt. 10c, ¼ oz. 50c.

**VINCA ROSEA.**—Very pretty growing plant. Useful for shady location or north situations. Pkt. 10c.

**VIOLA CORNUTA.**—"Tufted Pansies." A beautiful bedding plant which is very free flowering. Is hardier than the pansy and comes in mixed colors. Pkt. 10c.

**VIOLET.**—Dark blue. Very sweet smelling and probably the most popular of the Violet odorato strain. Pkt. 10c.

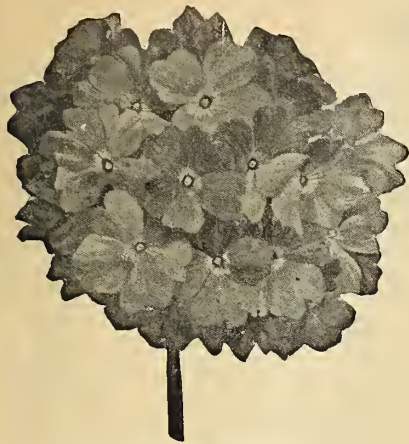
**WALLFLOWER.**—These delightfully fragrant flowers are indispensable for every garden. Height, 18 inches.

**Parisian.**—Mixed. A very choice mixture of this well known late winter and spring flowering plant. Pkt. 10c.

**Wild Cucumber Vine.**—A useful climber for arbors or trellis. Pkt. 10c.

**Wistaria.**—An extremely graceful climber. For trellis and arbor work no other vine can surpass it. Blue white.

Pkt. 10c.



Verbena Lucifer

**THUMBERGIA.**—One of the most graceful of climbing plants. Useful either in the open ground or for hanging baskets. Pkt. 10c.



Zinnia

## A & M IMPROVED GIANT ZINNIAS

One of the most popular annuals for the back country and warm climates. Planted in the early spring in the Imperial Valley or similar climates they will bloom in six to eight weeks from planting and will continue throughout the summer and fall. A & M Improved Giant Strains of Zinnias are the result of years of selection. The blooms are of immense size often measuring six to eight inches across and the colors are bright and attractive. Do not confuse these Zinnias with the old time flower of ten years ago.

"I was very much delighted with the Zinnia seed I received from you last year. Hope the ones this year will be as wonderful as the ones I planted last year.

"MISS ESTELLE DICKEY."

### New Dahlia Flowered

**New Dahlia Flowered.**—The plants are very sturdy and produce many flowers with stout stems. The flowers in full bloom often measure four inches in depth and six to eight inches in diameter. There is a wide range of colors the Golden Yellows, Old Rose, many shades of pink and bicolors. Pkt. 25c.

### Giant Picotee

**Giant Picotee.**—This very attractive novelty has taken well among the flower fanciers. The bronze, yellow, pink and crimson shades are well marked with Gold Picotee on the edge of petals. Pkt. 25c.

### Picotee Golden Pheasant

**Picotee Golden Pheasant.**—A new variety. A golden color with edges marked in an attractive shade of bronze; 2 to 3 feet high. Pkt. 25c.

### Victory-Quilled

**Victory-Quilled.**—The petals of this type are peculiarly quilled and twisted. Various shades of Rose and Lilac, which when the petals twist, reflect pleasing autumn colors. Pkt. 25c.

### Elegans Pumila

**Elegans Pumila.**—The best bedding variety. Very free flowering. Flowers large and brilliant colored. Dwarf double mixed. Height 15 inches. Tall double mixed, height 24 inches. Pkt. 10c.

### Giant Double Strain

**Giant Double Strain.**—This strain is offered in several colors. The individual blooms often measure 5 inches in diameter and the plants are in continuous flower from late spring until well into the fall. An annual which can be grown from seed with a minimum amount of trouble.

Flesh Shades  
Golden Yellow  
Pink Shades  
Purple Shades

Rose Shades  
Scarlet Shades  
Sulphur Yellow  
White

All colors mixed, Pkt. 10c, ¼ oz. 25c.

### Special Mixture

Special Mixture. Pkt. 15c, ½ oz. 40c.

### Haagaena (Mexican Hybrids)

**Haagaena (Mexicana Hybrids).**—Of new introduction, dwarf, the plant carrying small prettily marked flowers. A variety when better known will have a big demand. Pkt. 25c.

### Elegans Lilliput Mixed

**Elegans Lilliput Mixed.**—Small double flowers. Dwarf compact bushes and profuse bloomer. A good Zinnia for cutting. Pkt. 15c.

### Elegans Gracillima Mixed

**Elegans Gracillima Mixed.**—The smallest flowered type of double Zinnias. Resembles the pompom Dahlias. Useful for single specimens or groups, also for cutting. Pkt. 25c.

## "RAINBOW COLLECTION"

Of Spencer Sweet Peas, put up in seven separate packets. All colors of the rainbow, making a perfect blend. Red, Pink, Orange, Yellow, Lavender, Blue and Purple. The Collection 75c.



# Bulbs for Spring Planting

## DAHLIA BULBS

The Dahlia is not as particular as most of our flowers, and will succeed under a great many adverse conditions. The soil should be thoroughly cultivated, and the bulbs planted in hills, laying flat down, 6 inches deep. Do not stand bulb on end. They may be planted any time after danger of frost is over, and under ordinary conditions will bloom in 6 to 8 weeks after they have been planted.

Cultivate thoroughly until they begin to bloom, but do not cultivate during the blooming period.

In watering a thorough soaking with the soil stirred as soon as dry enough, is excellent, but a constant surface sprinkling causes surface roots and soft growth.



Golden West

### WRITE FOR OUR CATALOGUE OF BULBS

We cannot give space in this catalog to describe the many varieties of more than twenty-five species of bulbs, but we do give ample description in our Bulb Catalog. Write for it at once.

Holland Bulbs arrive October 1st and should be planted before January 1st. Write at once for Bulb Catalog.

Dahlia bulbs are ready about March 1st, and we can supply them until about May 1st. Please do not send orders to be shipped out of season. The varieties listed here are some of the latest and most popular introductions.

## Decorative Dahlias

	Each Postpaid
Danzon—Beautiful orange red .....	\$ .50
Hortulaneus Fiet—Shrimp pink .....	2.00
Mable Taft—Yellow and Apricot .....	3.50
Pride of California—Dark red .....	2.00
Abalone—Shell pink .....	.50
Beauty of Rosemont—Rosy pink and buff .....	1.00
Mina Burgle—Bright red .....	1.00

## Hybrid Cactus Dahlias

Kalif—Bright red .....	1.06
Bertha Horn—Golden yellow and bronze .....	2.00
Golden West—Yellow and orange buff .....	.75
Jane Selby—Mauve pink .....	2.00
Lady Helen—Dull crimson, tipped cream .....	3.50
Magnificent—Buff and rose salmon .....	3.00

## Pompon Dahlias

These are miniature Dahlias and with their long stiff stems are the most valuable addition to the Dahlia family. They are excellent for cut flowers. Each

Tiny Tim—Smallest and most perfect pink .....	\$2.00
Dagmar — Dark maroon, long stems .....	1.25
Little Dear—Old rose and salmon .....	1.25
Montague — Deep cherry, tipped yellow .....	1.50



## Mexican Everblooming Tuberoses

The most fragrant of all tuberoses and a wonderful bloomer. Flowers are pure white and clustered from six to a dozen on stiff stems, making them excellent for cut flowers. The bulbs of these multiply from year to year, producing great masses which should be separated and transplanted every three years. They are very hardy and will grow and bloom in the warm inland valleys equally as well as on the coast. A dozen bulbs will plant a row six feet long. (Per dozen 75c) postpaid.



## A & M BOOSTERS

Picnicing with their families in the shade of the beautiful oaks at Chatsworth Park.

The A & M Boosters meet each month in order to discuss perplexing problems, to make more perfect co-operation and efficiency

They are seed specialists.



# TREE AND SHRUB SEEDS

Most tree seeds should be planted during the winter and early spring months. Pine and Conifer seeds in March and April. Sow in boxes of well drained soil and keep in a protected place. A lath house is the best. Water in the morning to prevent seedlings from "damping off." When about two inches high, pot up and grow in pots until large enough to set out.

**ACER MACROPHILLUM.**—"California Maple." 75 ft. A native deciduous tree. Leaves large. Beautiful in autumn. Pkt. 10c, oz. 30c.

**CAMPHORA OFFICINALIS.**—"Camphor Tree." 30 ft. An ornamental and attractive tree with shiny green foliage. Pkt. 10c, oz. 25c.

**CEDRUS DEODARA.**—A beautiful evergreen of silvery green foliage, pyramidal form and drooping branches. Pkt. 15c, oz. 60c.

**CERATONIA SILIQUA.**—"St. John's Bread" or "Carob Tree." A very ornamental compact growing tree. Thrives in any soil and will withstand drouth. The leaves are a dark, glossy green. 3 Pods 10c, lb. 50c.

**CRYPTOMERIA ELEGANS.**—"Fine leaved Japan Cedar." Fine foliage which turns red in the winter. A beautiful tree for the lawn. Pkt. 15c, oz. 50c.

**CYPRESSUS LAWSONIA.**—Lawson's Cypress. A graceful evergreen, drooping branches, flat foliage. Height 100 ft. Pkt. 10c, oz. 40c.

**C. Macrocarpa.**—"Monterey Cypress." 75 ft. Native of California. Extensively used for hedges and windbreaks. Pkt. 10c, oz. 30c.

**C. Sempervirens.**—"Italian Cypress." A long-lived narrow tapering tree. Used in landscape gardening. Pkt. 10c, oz. 60c.

**GREVILLEA ROBUSTA.**—"Silky Oak." A pretty tree with fern-like foliage. Orange colored flowers. Rapid grower and withstands drouth. Pkt. 15c, oz. 50c.

**JACARANDA MIMOSAEOFOLIA.**—30 ft. A fine tree with fernlike foliage, bearing clusters of light blue flowers. Pod contains 30 or 40 seeds. 5c a pod.

**JUNIPERUS CALIFORNICA.**—"California Juniper." A small tree with dark green foliage. Pkt. 10c, oz. 40c.

**J. Virginiana.**—Red Cedar, 60 ft. A handsome well known tree. Pkt. 10c, oz. 35c.

**LIBOCEDRUS DECURRENS.**—100 ft. "Incense Cedar." A fine native tree of compact growth, green foliage and red bark. Pkt. 15c, oz. 50c.

**PINUS INSGNIS.**—"Monterey Pine." Native of California, growing well near the coast. Pkt. 10c, oz. 40c.

**MIXTURE OF PINES.**—Contains the best known varieties. Pkt. 10c, oz. 40c.

**SCHINUS MOLLE.**—"Pepper Tree." A graceful well known tree with fine foliage and red berries. Pkt. 10c, oz. 25c.

**MELIA UMBRACULIFORMIS.**—"Texas Umbrella Tree." Deciduous. A well known shade tree. Withstands heat. Pkt. 10c, oz. 20c.

**SEQUOIA GIGANTEA.**—"California Big Tree." The tallest of all trees. A beautiful pyramid tree. Pkt. 15c, oz. 90c.

**S. Sempervirens.**—"California Redwood." A fast growing native tree with reddish colored wood. Ornamental. Pkt. 15c, oz. 50c.

**STERCULIA DIVERSIFOLIA.**—"Victorian Bottle Tree." A fine tree for street planting. Glossy green foliage which varies in shape. Pkt. 15c, oz. 50c.

**THUJA OCCIDENTALIS.**—"American Arbor Vitae." A good tree for planting in lawns. Bright green foliage, turns bronze in winter. Pkt. 10c, oz. 40c.

**T. Orientalis.**—"Chinese Arbor Vitae." A small growing tree. Bright green flattened foliage. Pkt. 10c, oz. 25c.

**BITTER ALMOND.**—Per lb. 30c, postpaid.

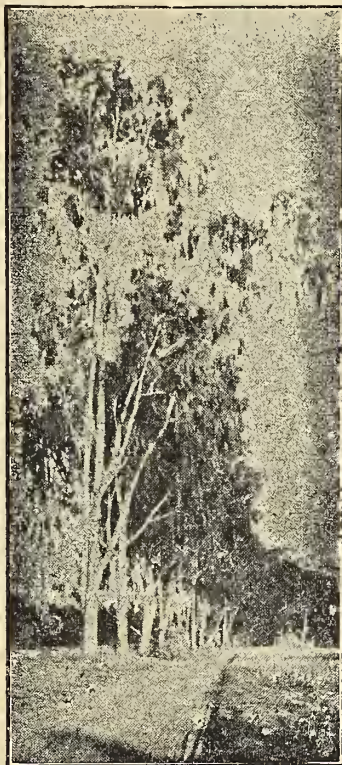
**MYROBOLAN PLUM.**—Per lb. \$1.00.

**CALIFORNIA WILD WALNUT.**—Per lb. 25c, prepaid.

**APRICOT.**—Per lb. 20c postpaid.

**PEACH.**—Per lb. 15c, postpaid.

**WILD SOUR ORANGE.**—Write for price. Delivery January to April.



**EUCALYPTUS SEED.**—Should be sown in June or July in thoroughly prepared seed beds or boxes. The beds should be kept moist at all times and watered only with a very fine spray. When seedlings appear water only in the mornings to prevent damping off. The seedlings should be transplanted when 2 or 3 inches high, to other boxes or small pots, and should be ready to set out in February and March. One pound produces about 20,000 seedlings.

**EUCALYPTUS CORYNOCALYX.**—"Sugar Gum." 100 ft. This variety is the most drouth resistant of all, but will not stand much frost. Wood hard. Pkt. 15c, oz. 75c.

**E. Ficalia.**—"Scarlet flowering Gum." The best of the red flowering varieties. 25 seeds 25c.

**E. Globulus.**—"Blue Gum." Most rapid grower and best known species. Grows well along coast. Wood is durable and also good fuel. A profitable tree to grow. Pkt. 15c, oz. 75c.

**E. Goniocalyx.**—"New South Wales Blue Gum." Tall rapid grower. Wood very hard and tough. Used by wheelwrights. Pkt. 15c, oz. \$1.00.

**E. Rostrata.**—"Red Gum." A very tall variety. Withstands extremes of heat and cold. Grows most quickly in the hot sections. Is durable and useful for railway ties, etc., and also for cabinet work. Pkt. 15c, oz. 50c.

**E. Rudis.**—"Desert Gum." Very valuable for hot arid sections. Wood durable. Good for street planting. Pkt. 15c, oz. \$1.00.

**E. Tereticornis.**—"Forest Red Gum." Considered the best for general timber purposes. Grows well in hot and cold sections. The wood is unsurpassed for durability. Pkt. 15c, oz. 75c.

**E. Viminalis.**—"Mama Gum." A hardy rapid growing variety well suited to exposed situations. The wood is softer than some, but is easier to work and takes a fine polish. Useful also for windbreaks. Pkt. 15c, oz. 75c.

## ACACIA.

**ACACIA.**—Soak seed in hot water 12 hours before planting.

**A. Baileyana.**—30 ft. The most popular. A fast grower with glaucous green foliage. Pkt. 10c, oz. 40c.

**A. Cultiformis.**—"Knife-leaved" Acacia. A fine shrub with glaucous green leaves. Height 15 feet. Pkt. 15c, oz. 50c.

**A. Dealbata.**—40 ft. "Silver Wattle" finely cut foliage. Good for street planting. Pkt. 10c, oz. 40c.

**A. Decurrens.**—50 ft. "Green Wattle." A rapid grower. Can be used as wind-break and is valuable for turner's work. Is rich in tannin. Pkt. 10c, oz. 40c.

**A. Floribunda.**—30 ft. A pretty tree of pendulous habit, quick growth and constantly in bloom. Pkt. 15c, oz. 50c.

**A. Latifolia.**—30 ft. "Golden Wattle." Ornamental; leaves long and rather broad. Does well on the coast. Pkt. 10c, oz. 40c.

**A. Lopantha.**—30 ft. "Crested Wattle." Rapid grower and useful for temporary shelter. Grows in poor soil. Pkt. 10c, oz. 15c.

**A. Melanoxylon.**—75 ft. A compact tree useful for street planting. Wood used in cabinet work. Pkt. 10c, oz. 35c.

**Chamaerops Excelsa.**—"Windmill Palm." Leaves fan shaped, and deeply cut. The hardest palm we have, a fine lawn palm. Oz. 15c, lb. \$1.50.

**Cocos Australia.**—"Pindo Palm." A very ornamental palm with glaucous green leaves, Quite hardy. 10 seeds 15c, 100 for 75c.

**Cocos Plumosa.**—A tall graceful palm, a rapid grower and a splendid variety for street planting. 10 seeds 20c, 100 seeds \$1.25.

**ERYTHEA EDULIS.**—"Guadalupe Palm." 30 ft. A rapid growing variety. Fan shaped leaves of dark green. 10 seeds 15c, 100 seeds \$1.00.

**PHOENIX RECLINATA.**—A graceful palm large and withstands cold. 10 seeds 15c, 100 seeds \$1.00.

**P. Canariensis.**—"Canary Island Palm." The most graceful and the handsomest of our hardy palms. Leaves pinnate and a green color. One of the most effective for lawn planting. 10 seeds 10c, 100 seeds 50c.

**SEAFORTHIA ELEGANS.**—One of the most beautiful for conservatory or protected gardens. Quite hardy. 10 seeds 15c, 100 seeds \$1.00.

**WASHINGTON FILIFERA.**—The well known California Fan Palm. Grows 60 to 80 feet. Always a bunch of leaves hanging close to trunk. Oz. 10c, lb. \$1.00.



Washington Robusta

**WASHINGTON ROBUSTA.**—A hardy Fan Palm. Leaves dark green without any threads. Pkt. 10c, oz. 25c.



# Nursery Department

Our nursery department has been reorganized. We have in charge a man thoroughly conversant with the business. It is our intention to have a more complete line of vegetable and flowering plants, shrubs and trees, grapes and berries. When you want plants, call upon us.

We have had frequent inquiries for a specialist to do pruning, budding and other jobs requiring experience and skill. When you want such a man write W. H. Bach, R. D. 3, Box 266, Burbank, California.

## READ

It costs just as much to wrap and prepare for mailing one small plant as to prepare one dozen. Therefore when plants are to be shipped by mail, let your order amount to not less than \$1.00.

## VINES AND TRAILERS

A useful and ornamental selection for covering pergolas, porches, arbors and walls. We can supply most of these from pots, the year round.

If wanted by mail, add 10c each for packing and postage.

**Bougainvillea Spectabilis** Flower brilliant rosy magenta. A very free bloomer. (Each \$1.00)

**Bignonia Tweediana** Clings to any surface. Large trumpet shaped flowers of orange yellow. Excellent for covering walls. (Each 85c).

**Ficus Repens** Clings close like ivy. Excellent for covering stone, brick or wood. Leaves small. Evergreen. (Each 50c)

**Honeysuckle** Flowers borne in great profusion and very fragrant. Evergreen. (Each 75c).

**Plumbago** Flowers a delicate blue. Very free bloomer. Foliage clean and smooth. (Each 85c).

**Tecoma Grandiflora** A handsome half-climbing shrub. Large flowers of brilliant orange borne in clusters. (Each 85c).

**Tecoma Mackenii** Strong growing vine. Flowers light pink. (Each 85c).

## CHRYSANTHEMUMS

Ready about March 1st. Add 15c per dozen for postage and packing.

Incurving and outcurving white, yellow, pink and lavender, suitable for outdoor culture. Our assortment consists of all good named varieties grown in 2-inch pots. (Per dozen \$1.50).

## CARNATIONS

Ready about March 1st. Add 15c per doz. for packing and postage. Greenhouse varieties of pink, white and red grown in 2-inch pots. (Per doz. \$1.50).

## PAMPAS GRASS

A well known ornamental of easy culture. The handsome plumes are borne on long stalks. (Per clump 60c).

## Other Bedding and Border Plants

Add 15c per Dozen for Packing and Postage

Pansies, assorted colors.....	Per dozen	\$ .75
Phlox, assorted colors.....	Per dozen	3.50
Lantana, from pots.....	Per dozen	1.50
Marguerites, Double White.....	Per dozen	1.50
Shasta Daisy.....	Per dozen	1.50
Verbena, pink, white, red, lavender.....	Per dozen	1.00
Violets, large deep blue.....	Per dozen	1.50
Hydrangea, pink.....	Each	.75
Coprosma, glossy leaf.....	Each	.50
Privet, Japonica.....	Per 100	3.00
Privet, Golden (Plant Privet 10 in. apart).....	Per 100	4.00

## ROSES

We have at all times a good stock of large two-year-old roses in pots. On request we will gladly send a list of varieties and prices both in climbing and bush. This stock may be transplanted any time of the year.

See our blooming potted plants for Xmas presents and house decorations.

See also our Canaries and Gold Fish.

## FRUIT TREES

Sold at the counter only. We will have on hand throughout the season a complete line of fruit trees suitable for the home garden.

### DECIDUOUS

Apple  
Peaches  
Pears  
Apricots  
Plum

Figs  
Guava  
Cherimoya  
Nectarine  
Walnuts

### CITRUS

Oranges  
Lemons  
Pomelo  
Tangerine  
Kumquat

### ORNAMENTALS

Pines Palms Acacia  
Eucalyptus and Miscellaneous  
Trees and Shrubbery

### GRAPES

We are pleased to announce that we can again offer the Persian Grapes.

✓Karum, the elongated white grape, almost seedless.

✓Hamadan, the olive-shaped white grape.

✓Black Damson, the wonderful producer and good shipping variety.

All of these varieties are of excellent flavor, one year rooted plants 60 cents, postpaid. One each of the three varieties, \$1.50, postpaid.

We aim to have on hand during the season the following varieties of one-year-old rooted grape cuttings:

Muscat, Red Emperor, Black Morocco, Rose of Peru, Black Hamburg, Cornichon, Thompson Seedless, Tokay, Eastern Concord.—(Each 25c) (dozen \$2.00 postpaid). Write for quantity price.

Some Sub-tropical Fruits have proven adaptable to our climate and have become a commercial commodity.

## Avocado

The Avocado is the most valuable. Only in 1915 Orange County advertised an Avocado crop to the value of \$5,000.00. At that time the crop in Los Angeles County was insignificant. We have no figures on the 1921 crop, but we are sure it is many times \$5000.00 with many thousands of trees just coming into bearing. The experimental stage has passed, satisfactory varieties have now been determined. Get a tree for your back or front yard, it will prove a good investment.

## Pineapple Guava

The fruit of the Feijoa Sellowiana (Pineapple Guava) is now a substantial article of commerce. It is delicious any way it comes on the table, whether in jelly, jam or with sugar and cream. The small wide-spreading tree with its beautiful blossoms and silvery colored foliage makes an ornamental tree suitable for any front yard. Be sure to have one or more.

## Strawberry Guava

The Strawberry Guava is very satisfactory. It can be trimmed to a beautiful hedge or to a tree of substantial dimensions. It bears abundantly of fruit that is excellent, either as a breakfast fruit or as jelly.

## Lemon Guava

The Lemon Guava is quite satisfactory after the plant is eight or ten years old.

## Cherimoya

The Cherimoya requires eight or ten years to become profitable, but it is worth waiting for.

## Sapote

The Sapote is delicious, unlike any other fruit. The tree is quite ornamental; every home place should have one or more.

Read what Mr. E. E. Roy accomplished with berries on 1/5 of an acre all within fourteen months after getting possession of the ground.

Four rows of Loganberries (120 plants) realized.....	\$ 80.00
Two rows of Corey Thornless Blackberry (60 plants) realized.....	125.00
Four rows St. Regis Raspberry (240") realized.....	75.00
A bed of strawberries 50x50 (1250) realized.....	175.00

\$455.00

A total of \$455.00 from 1/5 of an acre. All sold at the roadside in front of the house.



# Strawberries

Now is the time to get started into the berry business. With the enormous increase in population that is sure to come, with the decrease in the present acreage that is sure to follow the expiration of present leases, this would seem to be the time to start into the berry business.

## A & M CAROLINA



This picture taken October first shows a field of A & M Carolinas set out March 10th. Though less than seven months old has borne a full crop of berries. Notice enormous growth of runners

## A & M CAROLINA STRAWBERRY

This variety is superior to all other varieties. It is earlier, bearing a full crop eight to twelve weeks after transplanting, and sends out more runners and sets more good strong plants quicker than any other variety.

It bears berries continuously all summer; the stems are strong, supporting the fruit well above the ground; the foliage is profuse, shading the berries from the sun and protecting the roots from frost.

"Two hundred plants set out in March yielded a full crop of berries in May and June, and before the following March fourteen thousand plants were sold and more than two thousand plants remained in the row. The second year this row matured berries two weeks earlier than any other variety and bore good large berries all summer."

The A & M Carolina has made good. It is the most popular strawberry in California today. For the home garden it is unequalled because of the long-fruited season, and for the market gardener it is a money maker because of the heavy yield of first class berries. They are easy to grow and a few plants will in a year's time increase your patch and supply the neighbors with plants. (Doz. 50c) (\$3.00 per 100) postpaid \$25.00 per 1000, f. o. b. here.

### READ WHAT OTHERS SAY

"The Carolina Strawberry you sent me have already been blooming and I have picked four ripe berries, altho' they have been planted less than three months. I think that is very remarkable. They are doing better than any I have ever had from anywhere."

L. MIGNON,

Las Cruces, New Mexico.

About the first of February I sent to your house and purchased ten thousand Carolina Strawberry Plants. I planted seven thousand, have picked 456 boxes of berries to date, second setting coming on finer than first. They are sure some berry but the runners are coming so thick that I am stumped to know what to do with them. I planted the original plants 18 inches in the row, rows 24 inches apart. I have been training the runners in the row, but they are coming so thick numerous that I am stacking them on top of each other in order to keep a space clear between the rows for irrigating and cultivating. I have noticed some of the runners blossoming and setting berries at the first joint, joint not rooted.

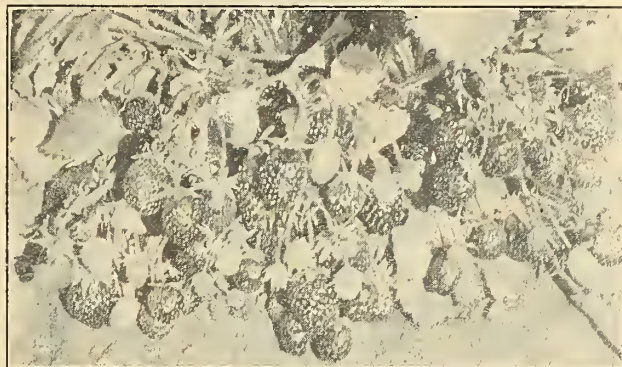
G. A. STREETER.

I wish to say a word for the Carolina Strawberry, of which we bought 100 plants of you in January. These were set out soon after we got them.

What I had seen and heard of strawberries in this section (La Mesa Colony) were disappointing. Most of the vines seemed to hug close to earth and were soon gone—died out. I had been used to plants that grew higher in Wisconsin, and we sure had some berries back there.

Well, when your Carolinas started to grow, which they did immediately on setting out (we lost scarcely a plant), well, I sure thought I had got back home. They grew tall (a foot off the ground) and they put out runners and they put out berries. We have certainly had some delicious shortcake.

WARREN ROBERTS.



### Progressive

**Ettersburg No. 80** Is a large solid berry. It is very productive of fine red berries that are of large size and have a large, clean-cut calyx or hull. The plant is extra vigorous and deep rooting and the foliage leathery. The fresh fruit is of fine dessert quality, and for flavor as a canned berry it is the very best, and has a deliciousness found in no other variety. It is red, and red to the center. It is a great canning sort.

Price—(Per doz. 50c) (\$3.00 per 100) postpaid; (\$25.00 per thousand) f. o. b. here.

**The Banner** Strawberry is claimed to be the best of all the local varieties because of its uniformly large size, red, glossy appearance, good keeper, non-acid flavor, and always showy, on which account the dealer prefers it.

Price—(Per doz. 50c) (\$3.00 per 100) postpaid; (\$25.00 per thousand) f. o. b. here.

**Progressive** A favorite among large growers consequently we have no hesitancy about recommending it for market or the back-yard garden. (Doz. 50c) (\$3.00 per 100) postpaid (\$25.00 per 1000) F. O. B. Here.

**Klondike** For many years the Klondike has been the favorite with large growers. It is excellent for shipping.

Price—(Per 25, 50c) (100, \$1.50) postpaid; (1000, \$11.00) f.o.b. here.

**Brandywine** This is a standard variety and has been planted extensively by larger growers in this section for more than twenty years. It is a good shipping variety. Price—(Per 25, 50c) (100, \$1.50) postpaid; (1000 \$11.00) f. o. b. here.

### Berry Plants—Price Prepaid

	Per 10	Per 100	Per 1000
Loganberry .....	\$ 2.00	\$15.00	\$100.00
Blackberry, Corey Thornless .....	3.00	20.00	150.00
Blackberry, Macatawa .....	1.50	7.50	60.00
Blackberry, Himalaya .....	1.50	7.50	60.00
Blackberry, Mammoth .....	2.00	10.00	75.00
Dewberry, Gardena .....	1.50	6.00	50.00
Dewberry, Lucretia .....	1.50	7.50	60.00
Raspberry, St. Regis .....	1.50	8.00	70.00
Raspberry, King of Cliff .....	1.50	7.50	60.00
Raspberry, Cuthbert .....	1.50	6.00	50.00
Raspberry, New Red .....	1.50	8.00	70.00

The present high price of berries is likely to continue indefinitely because of the shortage of acreage devoted to the growing of strawberries. Therefore it would seem that there was a time when the outlook was better to get into the business.

If you contemplate growing strawberries, plant first the A & M Carolina and the Progressive Everbearing, then the other varieties for diversion, all are good. No matter which one you have you will be sure you have the best.

Probably the most profitable berry is Corey's Thornless Blackberry. It is just like the Mammoth Blackberry without thorns.

Mr. E. E. Roy writes us as follows:

The Corey Thornless Blackberry is a prolific grower and an abundant fruiter if cared for properly.

It wants pruning back to six or eight feet, no more, and the side laterals should be pinched off at about two feet, no longer. They can be trellised along on wire or they make a nice bush staked. They would also make a nice arbor if pruned properly.

One Corey Thornless Blackberry properly cared for will produce at fourteen months from twenty-five to thirty or more boxes of fruit, all the way from one and one-fourth to two inches long, and one inch through.

A peculiarity of it is that it will throw up small suckers with thorns on them. They should be cut off at any time you notice that. If they come from the ground, cut off down at the roots. If they come in the middle of the cane, cut off back of where they start. In either case they will not return.



# Lawn and Garden Requisites

On this page we can only hint at some of the lines we carry, trusting you will, if interested, write and inquire for more information. We carry a full line of Lawn Mowers, Garden Hose, Pruning Knives, etc.

## AMCO GARDEN HOSE

All hose looks alike to the average person, and the buyer is usually at the mercy of the seller. In buying hose from us you are dealing with an established firm, and we go further than that by putting our name on the hose we sell, which signifies that we are not afraid of the quality. Amco hose is made expressly for us. Quality and price are right.

1/2 inch, 25 foot lengths with 3/4" couplings.....	\$3.50
1/2 inch, 50 foot lengths with 3/4" couplings.....	6.75
3/4 inch, 25 foot lengths with 3/4" couplings.....	4.25
3/4 inch, 50 foot lengths with 3/4" couplings.....	8.25

## Spray Hose

Heavy, high pressure hose for power pumps.

3/8 inch .....	25c per foot
1/2 inch .....	30c per foot
Five-ply hose for use on small spray pumps.	
3/8 inch .....	17c per foot
1/2 inch .....	21c per foot

## LAWN MOWERS

Our lawn mowers are full ball-bearing machines of high quality. We buy them in large numbers direct from the factory and give you the benefit of the saving we make. Compare these prices with the prices of similar mowers, and we are sure you will send us your order.

Ball-bearing, 8-inch wheel:

14-inch cut .....	each \$13.00
16-inch cut .....	each 14.00

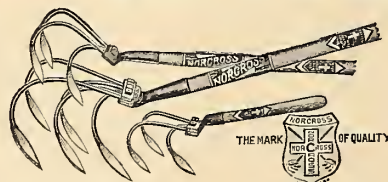
**Capitol Lawn Edger** A most convenient tool for trimming the edge of the lawn and around the walks. Does away with the old back-breaking job. Each .....\$11.00

## GARDEN TOOLS

- No. 1—Pruning Saw, folding handle, \$1.75.
- No. 2—Grass Hooks, 75c and \$1.00.
- No. 3—Hedge Shears, \$2.50 to \$3.00.
- No. 4—Tree Pruner, \$2.75.
- No. 5—Garden Trowel, 25c to \$1.00.
- No. 6—Excelsior Weeder, 25c.
- No. 7—Pruning Shears, \$1.75 to \$3.75.
- No. 8—Grass Shears, 50c to \$1.00.
- No. 9—Water's Tree Pruners, 4 to 10 ft., \$2.00 to \$2.50.
- No. 10—Warren Hoe, \$1.35.
- No. 11—Dibble, 75c.
- No. 12—Lawn Rakes—wire, 24-tooth, \$1.00; 42-tooth, \$1.75.
- No. 13—Pruning Saw, \$3.50.
- No. 14—Garden Rake, curved teeth, 14-tooth, \$1.25.
- No. 15—Pruning Saw, \$2.50.
- No. 16—Perfect Clinging Hose Couplings, 45c pair.
- No. 17—Asparagus Knife, \$1.00.
- No. 18—Turf Edger, \$1.35.
- No. 19—Boston Nozzle, 85c.
- No. 20—Secure Hose Washers, 20c doz.
- No. 21—Garden Hoe, 7-in., \$1.25.
- No. 22—Crescent Fountain Sprinkler, \$1.25.
- No. 23—Twin Sprinkler, 35c.
- No. 24—Spading Fork, Long, \$1.75; D-Handle, \$1.90.
- No. 25—Square Fountain Sprinkler, \$1.00.
- No. 26—Vilgus Sprayer No. 2, 50c.
- No. 27—Shovel—D Handle, Long Handle, \$2.35.
- No. 28—Rose Nozzle, 75c.
- No. 29—Perfect Clinging Hose Menders, 20c each.
- No. 30—Handy Sprinkler, 50c.
- No. 31—Spade—D-handle, Long Handle, \$2.35.
- No. 32—Potato Hooks, \$1.25.

## "Norcross" Cultivators—Hoes and Weeders

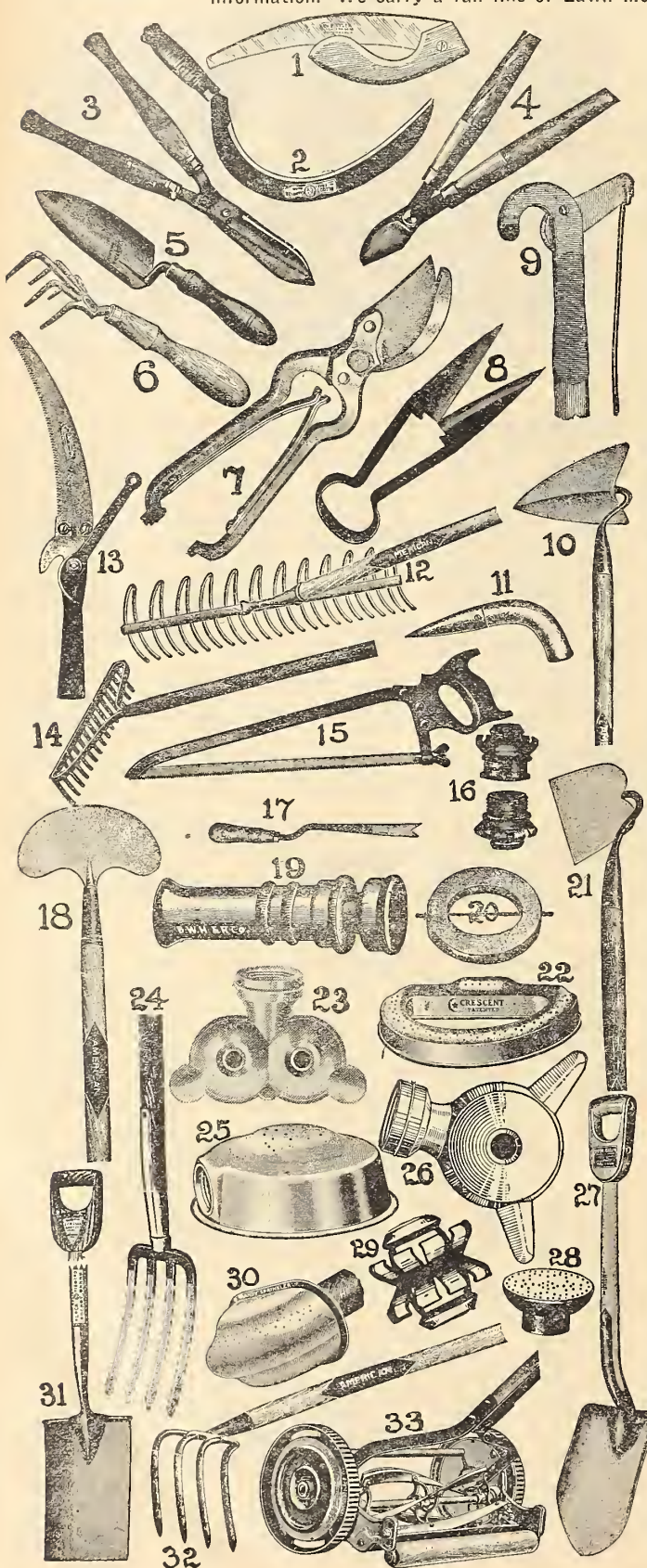
The Modern Tools—For Garden and Flowers



Like the human hand, these tools cultivate closer to plants without injuring them, than any other implement known, leaving the soil level, loose and uncompacted.

Cost but a trifle more than the common Hoe—accomplish much more and better work with decidedly less labor. The sharp tapering shovels enter the soil freely, literally tearing up every inch of it, from 1 to 6 inches deep, as required.

PRICES EACH—5-prong (wt. 3 lbs.), \$1.50; 3-prong (wt. 2 lbs.), \$1.10; Midget (wt. 12 oz.), 65c. Postage extra. See postal notes on inside front cover page.

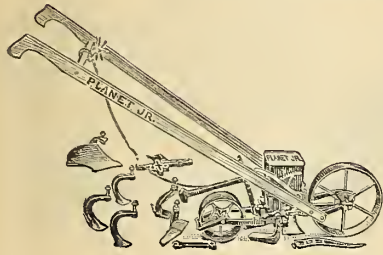




## PLANET JR. GARDEN TOOLS

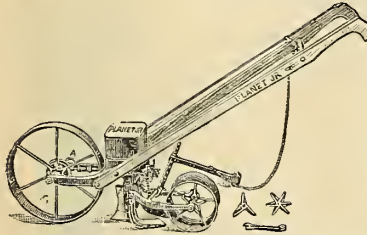
Planet Jr. Tools Will Make Gardening a Pleasure, Besides Saving Time and the Back.

### No. 4 Planet Jr.



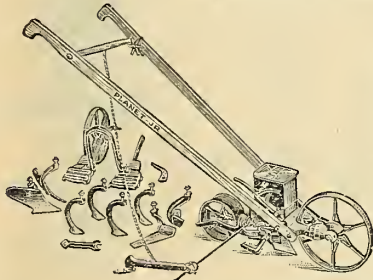
Combined hill and drill seeder, single wheel hoe, cultivator and plow. This is the ideal machine for the family garden. May be changed from seeder to cultivator in a few minutes. Your boys and girls will enjoy gardening with this tool. Price \$21.00 f. o. b. Los Angeles.

### No. 4-D Planet Jr.



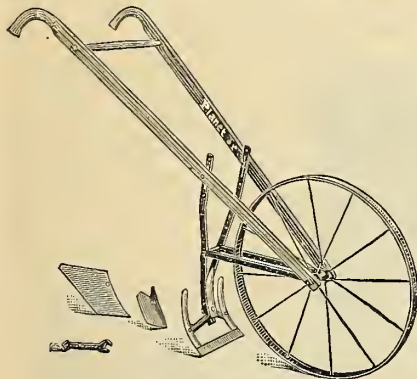
This is the same as No. 4 except that it does not have the cultivator parts. It may be used by gardeners who have sufficient seeding to warrant having a seeder only. Sows all garden seeds in hills or drills. Price \$16.75 f. o. b. Los Angeles.

### No. 25 Planet Jr.



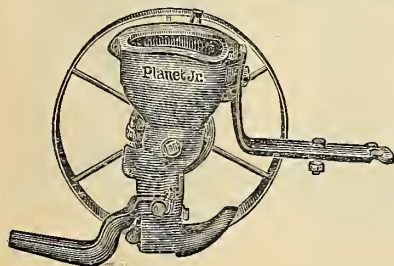
Combined hill and drill seeder, double or single wheel hoe, cultivator and plow. This is a larger tool and is used by onion growers, lettuce growers and market gardeners. Also a good size for the large family garden. Price each \$24.75 f. o. b. Los Angeles.

### No. 119 Planet Jr.



A very popular high wheel cultivator, fully equipped as shown in picture. This is a durable all-purpose tool. The No. 35 seeder attachment may be used with tool, and makes an inexpensive combination. Price \$6.00 each f. o. b. Los Angeles.

### No. 35 Seeder Attachment

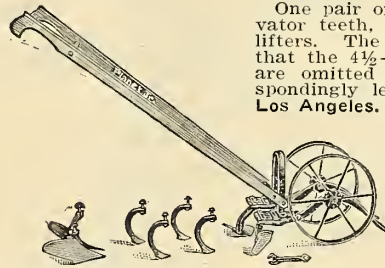


May be attached to the No. 119 and other Planet Jr. cultivators. Suitable for the small family garden. Will sow all garden seeds in hills or drills. Quickly and easily attached. Price \$6.00 f. o. b. Los Angeles.

### No. 11 Planet Jr. Double and Single Wheel Hoe

One pair 6-inch hoes, one pair 4½-inch hoes, four cultivator teeth, one pair plows, two 3-tooth rakes, two 5-tooth rakes, two leaf-lifters. The steel frame can be set at different heights to suit. This is one of the most complete implements we have. Each \$17.25 f. o. b. Los Angeles.

### Planet Jr. No. 12 Double and Single Wheel Hoe



One pair of 6-inch hoes, four cultivator teeth, one pair plows, two leaf lifters. The same as No. 11 except that the 4½-inch hoes and the rakes are omitted and the price is correspondingly less. Each \$13.50 f. o. b. Los Angeles.

### Planet Jr. No. 16 Single Wheel Hoe

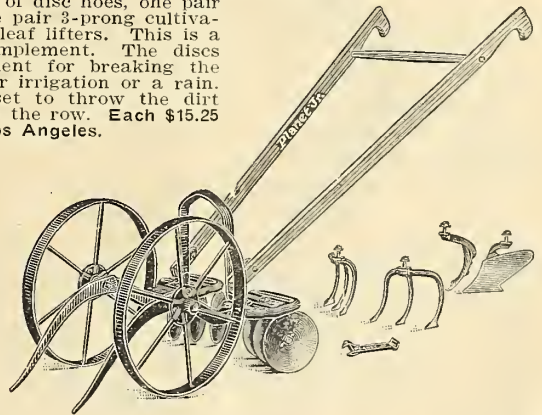
One pair 6-inch hoes, three cultivator teeth, one large garden plow, one 7-inch rake, one 4-inch rake, one leaf guard. May be used to good advantage in any garden work. Each \$11.00 f. o. b. Los Angeles.

### Planet Jr. No. 19 Garden Plow and Cultivator

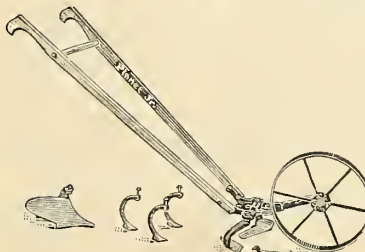
Fifteen-inch wheel, one 2-inch cultivating tooth, one 10-inch sweep, one plow, one 5-prong cultivator. An inexpensive and effective tool for large or small garden. Each \$7.00 f. o. b. Los Angeles.

### Planet Jr. No. 14 Double and Single Wheel Disc Hoe

One set of disc hoes, one pair plows, one pair 3-prong cultivators, two leaf lifters. This is a popular implement. The discs are excellent for breaking the crust after irrigation or a rain. May be set to throw the dirt to or from the row. Each \$15.25 f. o. b. Los Angeles.



### Planet Jr. No. 17 Single Wheel Hoe

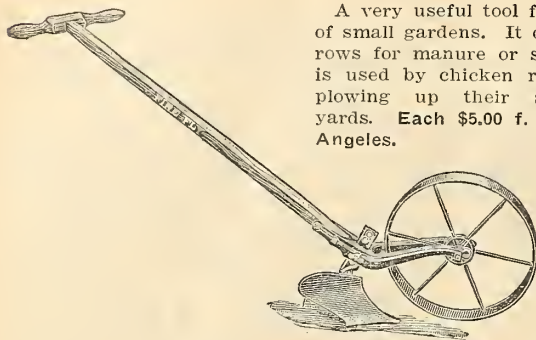


One pair of 6-inch hoes, three steel cultivator teeth, one large garden plow. Same as No. 16 except in equipment. Each \$9.50.



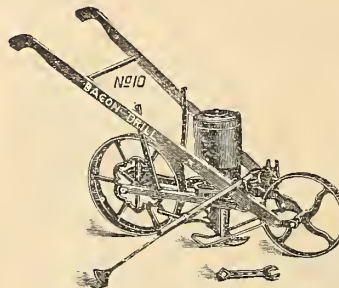
## GARDEN TOOLS—(Continued)

## Fire Fly Garden Plow



A very useful tool for owners of small gardens. It opens furrows for manure or seeds, and is used by chicken raisers for plowing up their scratching yards. Each \$5.00 f. o. b. Los Angeles.

## Bacon Hand Drill



An inexpensive and very accurate hill and drill seeder. The hill dropper deposits seed 9, 12, 18 and 36 inches apart. Will sow all kinds of garden seeds in a narrow line which allows close cultivation and saves hand labor. Is light and very durable.

Price \$15.00, f. o. b. Los Angeles.

## NURSERY AND FARM REQUISITES

## Nursery Supplies

Grafting Wax—(1/4 lb. 25c) (1/2 lb. 40c) (lb. 75c) postpaid.  
Balling Twine—(5-lb. ball \$1.75) f.o.b. here.  
Budding Twine—(Per ball 50c) (Postpaid 60c).  
Budding Cloth—(Per square yard 70c) prepaid.

## POT LABELS

Plain	1000	Painted	100	1000
4.....	25c	4.....	30c	\$3.10
5.....	30c	5.....	35c	3.60
6.....	35c	6.....	40c	4.10

## TREE LABELS—Copper wired and painted:

3 1/2 inch.....	\$0.35 per 100	\$3.60 per 1000
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## HANGING BASKETS—Earthenware:.....

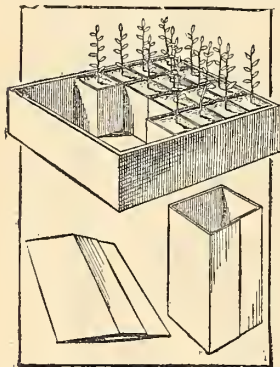
7 inch.....	.35	10 inch.....	.75
8 inch.....	.50	14 inch.....	1.50

## HANGING BASKETS—Wire

10 inch.....	.75	12 inch.....	\$1.00
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## WALL POCKETS—Wire:.....

10 inch.....	.85	12 inch.....	\$1.25
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## The Expan Planting Pot

Made of heavy tar paper. Open top and bottom. For propagating plants, trees and shrubs—no waste space—no breakage. For the nurseryman, florist and market gardener. You can grow melons, squash, canteloupes, cucumbers, etc., three weeks earlier in these pots than out in the open. When setting the plants in the field plant the pot and all, leaving about one inch above the top of the soil; this protects the tender plant from cut worms, wire worms, moles and field mice.

## THE EXPAN PLANTING POT

All prices f.o.b. Los Angeles

Size	Price per 1000	Price per 100	Wt. per 1000
3x8 .....	\$11.00	\$1.75	85 lbs.
3x6 .....	8.90	1.55	66 lbs.
3x5 .....	7.25	1.50	55 lbs.
3x4 .....	6.25	1.35	44 lbs.
3x3 .....	4.75	1.25	33 lbs.
2x8 .....	8.00	1.45	58 lbs.
2x6 .....	6.25	1.35	44 lbs.
2x5 .....	5.25	1.25	37 lbs.
2x4 .....	4.60	1.00	29 lbs.
2x3 .....	3.75	.75	22 lbs.
1 1/2 x 5 .....	4.60	1.00	28 lbs.
1 1/2 x 4 .....	3.75	.75	22 lbs.
1 1/2 x 3 .....	2.95	.50	17 lbs.

## Raffia

We have natural Raffia by the pound or by the ton. Great quantities of it is used on the Los Angeles market by gardeners for tying vegetables. We are headquarters. Price—(Per lb. 25c) For larger quantities write for price.

## Spagnum Moss

Fine grade of Eastern moss for packing trees, plants, Asparagus roots, etc. (Single pound 20c) postpaid. (Per bale, \$2.75 f.o.b. Los Angeles.

## Green Moss

Line your wire hanging baskets with this green moss. It will add to the attractiveness of the basket. Price—(per lb. 30c).

## Yucca Tree Protectors



Paraffine

The Yucca Tree Protector is made from the soft spongy Desert Palm, and will last years exposed to the weather. Wires go entirely around the protector, thus holding it in place, even should it crack a little while in use. Protect your trees against the hot rays of the sun, rabbits, gophers, and be sure to use this protector if bothered with Tree Borer.

Size	Lbs.	Per 100	Per 1000
14 in. ....	90	\$1.75	\$12.00
18 in. ....	125	2.00	15.00
24 in. ....	150	2.25	18.00
30 in. ....	200	2.50	21.00



Yucca

## Paraffine Paper Tree Protectors

These Protectors are perforated, giving a free circulation of air around the tree trunk. The Paraffine preserves the paper, making the Protector very durable. Will not split or tear.

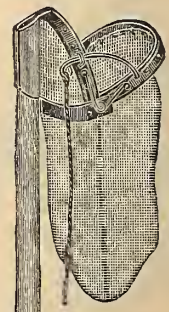
Size.	Lbs.	Price	Per 1000	Price
14 in. ....	50	\$12.50		\$1.75
18 in. ....	65	15.00		2.00
24 in. ....	85	18.50		2.25
30 in. ....	106	22.00		2.50
36 in. ....	127	28.50		3.50

## Pennsylvania Fruit Picker



Pennsylvania Fruit Picker

No ranch is completely equipped without this valuable tool. It is always the choicest fruit that cannot be reached from the ladder; you do not wish to knock it down with a club, as the fall would bruise it. Use the Fruit Picker and the fruit is caught in the pocket prepared for it. Every ranch that has half a dozen or more fruit or walnut trees should have one or more Pennsylvania Fruit Pickers. (Price 75c) (by Mail 85c).



Masters Fruit Picker, \$2.00 Postpaid



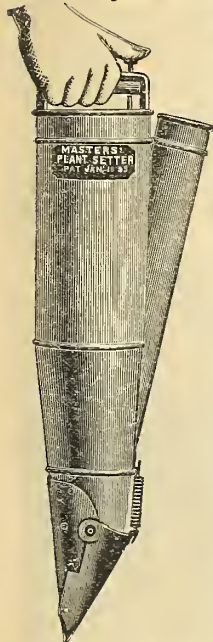
# FARM REQUISITES



Cyclone Seed Sower

## Cyclone Seed Sower

This Seeder is equipped with the following important features: Sloping feed board, automatic feed adjustment, distributing wheel, triple gears. Weight, 5 lbs. Price \$3.00.



Master's Plant Setter

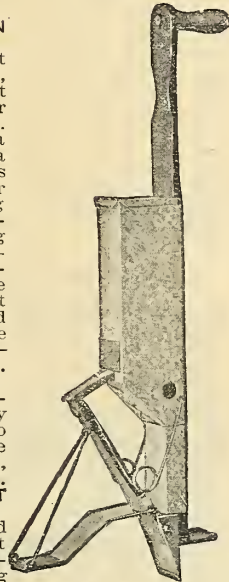
## SEGMENT CORN PLANTER

The lightest, most accurate, strongest, cheapest and most up-to-date Planter on the market. Never cracks a kernel nor skips a hill. It is always in position, never makes a wrong move. Many gardeners are using this for their re-planting, and melon growers are using it to plant watermelons and cantaloupes. (See picture). Price—\$2.00 f. o. b. here. Weight, 5 lbs.

Ask for anything you may want pertaining to garden tools; we probably have it, although not listed. **MASTER PLANT SETTER**

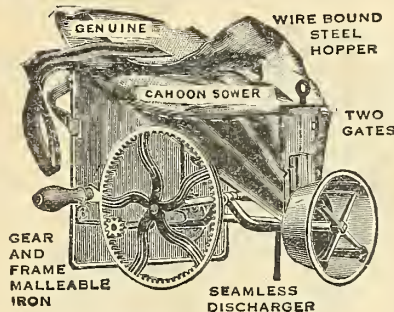
The only hand mechanical plant setter on the market. No stooping when using it, therefore no lame backs. All kinds of plants — Cabbage, Tobacco, Tomatoes, Cauliflower, Strawberries, Sweet Potatoes, etc., are set in water and covered at one operation. Weight 10 lbs.

Price—Each \$6.00 f. o. b. here. Ask for circular.



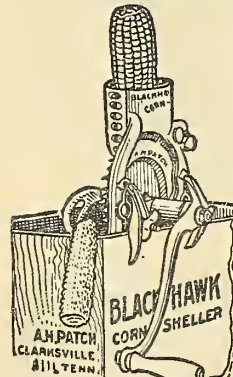
Segment Corn Planter, All large melon growers are now using the Segment Corn Planter.

## Hand Seeder and Planter

Cahoon Seeder  
Weight crated 8 lbs.

The Standard Sower acknowledged to be superior to all other hand sowers. Gives perfect satisfaction, and can be used for sowing alfalfa and grains broadcast. Sows from four to eight acres per hour at a common walking gait. A saving of four-fifths of the labor and one-third of the seed by its use. A person entirely unaccustomed to sowing by hand can use this machine with perfect success. Price \$6.00 f. o. b. here. Weight crated 8 lbs. Can be sent by mail.

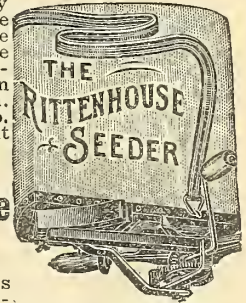
## Black Hawk Corn Sheller



Corn Sheller

Shells easily and rapidly separates the cob from the corn. We give it special recommendation to poultry men. Price \$4.00 f. o. b. here. Weight 20 lbs. packed.

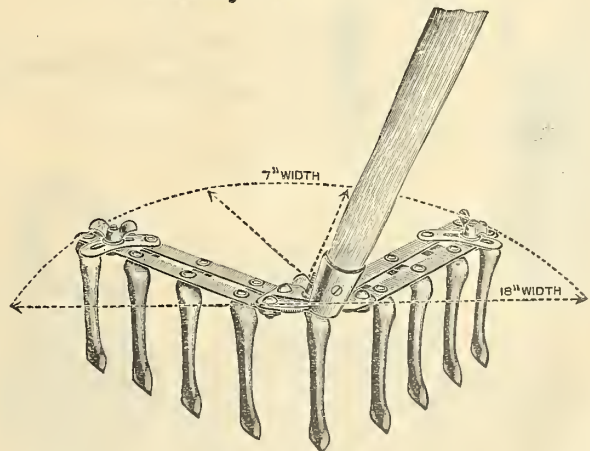
## Rittenhouse Seeder



It has its right side concave in shape and rests nicely against the body just above the hip. The crank shaft being above the distributing wheel brings both hands to nearly a level and gives the operator the easiest position possible. It sows evenly all kinds of grass seeds, grains and fertilizers. Clover is thrown a width of 18 ft.; timothy, 15 ft.; alfalfa, 20 ft.; wheat, 25 ft.; oats, 18 ft.; millet, 18 ft. An operator can sow from 40 to 50 acres per day. Price—\$3.00 f. o. b. here. Weight 9 lbs.

Garden Wheel Barrow, wt. 48 lbs. Price \$10.00 f. o. b. Los Angeles.

## Pull-Easy Hand Cultivator



When the arms are spread out to full width of 18 in. this cultivator is like a rake.

For narrower rows the outer ends of the arms can be closed to any width down to 7 in. Human hands, loosening and tightening the thumb nuts, are the only tools needed.

The shape of the teeth and the way in which they are attached to the steel side bars makes the cultivator entirely different from any ordinary rake because the teeth penetrate the ground, stir it up and pulverize it thoroughly without the operator being obliged to exert any downward pressure on the handle.

The middle tooth can be instantly removed, permitting narrow rows of small plants to be cultivated two at a time.

5-tooth Cultivator .....\$1.25  
9-tooth Cultivator ..... 1.75



Do away with the filthy garbage can by having a flock of profitable hens in your back yard.

"I have tried for some time to find a Segment Corn Planter without success until I received your catalog. I need one for planting Watermelon seed, and I am going to recommend that other members of the association order them from you."

"D. V. SCHUHART, Arlington, Texas."

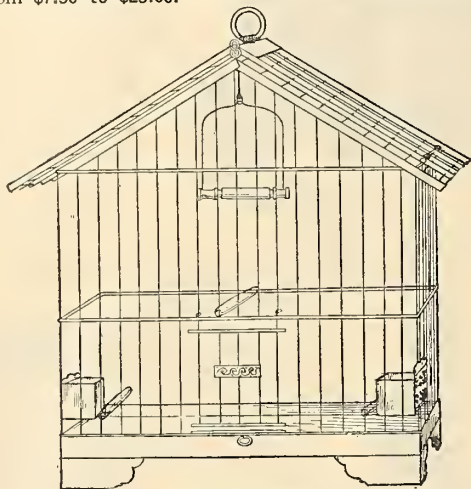


# CANARY BIRDS, CAGES AND BIRD SUPPLIES

## Add cheer to the home with a Canary

### Canary Birds

Our bird department is complete with Rollers, Trillers and Warblers. All young canaries and in their prime, ranging in price from \$7.50 to \$25.00.



New Collapsible Bird Cage

### CAGES

We offer this year for the first time the new enameled collapsible bird cage for sending by parcel post. Packed in a neat basteboard box, this cage may be sent with safety any distance by parcel post. It is a nifty, well built cage and an ornament in any home. Our special arrangement with the manufacturer and the fact that we placed a large order enables us to sell this cage at a very low price, and we are making a leader of it this year. If your old cage is tarnished and worn and you have been thinking for some time that you would buy "birdie" a new home, this is your opportunity to do so at a nominal cost.

Price—(Each \$4.50) postpaid.

### Other Cages

We have a complete assortment of cages in brass and enamel. They range in price from \$4.50 to \$25.00. If you want a fancy cage write us and we will quote prices.



### Cage Supplies

Opal Bird Cups (each 25c) postpaid.  
Crystal Bird Cups (each 20c) postpaid.  
Cage Hooks, (small 25c) (medium 35c) (large 50c) postpaid.  
Brass Cage Springs, (medium size 30c) (large size 35c) postpaid.  
Bird Bath (small 30c) (large 40c) postpaid.  
Large Glass House Bird Bath (each \$1.35) postpaid.

### Gold Fish

Just step in and see our aquarium of 1,000 beautiful gold fish. No two alike.

### Bird Foods and Remedies

Ask for our Free Bird Booklet.

Bird foods and remedies that stand on the shelf for weeks and weeks get stale and should not be fed to the birds. It is just as important that your bird have fresh, clean food as it is for yourself, and this is something that we can positively assure you, for our stocks are moving all the time in great quantities and they do not grow stale.

**Oil-E-Tonic** Nature's remedy for sick birds. In use for ten years with a record of 90% cures. It will cure any kind of bird of any ailment, and keep them healthy. When you put fresh seed into the cage, apply three drops of Oil-E-Tonic on the seed every other day; you will then rarely have a sick bird. Directions on each bottle. Per bottle 50c; add 5c if sent by mail.

**Medicated Bird Seed** A tonic for birds of all kinds. 15c per packet. By mail 25c.

Mixed Bird Seed.....	Per Pkg. 25c
Bird Gravel .....	Per pkg. 25c
Bird Bitters .....	30c
Bird Manna .....	15c
Bird Eye Water .....	30c
Mite Powder .....	30c
Moulting Pepper .....	30c
Color Food for Canaries.....	30c
Nestling Food .....	30c
Nestling Hair .....	15c
Mericon Salve .....	30c
Parrot Tablets .....	30c
Mocking Bird Food.....	60c
Cuttle Bone .....	10c
Fish Food .....	15c

### Dog and Cat Foods and Remedies

**Austin's Dog Bread** A high grade dog food made from the finest materials. Contains ingredients in such combination as to make a healthful, nourishing food. Austin's Bread contains no formaldehyde, preservatives, chemicals, waste materials or by-products. It is good for the teeth, for sweet breath, for glossy coat and for regular habits. (Medium Package 45c) postpaid; (large package \$1.00) postpaid.

**Austin's Puppy Bread** Containing ten biscuits. (25c) postpaid.



BOOK ON DOG DISEASES—AND HOW TO FEED—FREE

### Clayton's Dog Remedies

If wanted by mail add 5c each for packing and postage.

Mange Remedy .....	50c
Skin Lotion .....	50c
Hair Tonic .....	50c
Distemperine Liquid (Tablets).....	50c
Condition Pills with Pepsin.....	50c
Blood Purifying and Cooling Pills.....	50c
Digestive Tablets .....	50c
Laxative Pills .....	50c
Worm Pills .....	50c
Tape Worm Expeller .....	50c
Vermifuge (Liquid) Soft Capsules.....	50c
Canker Lotion Liquid (Tablets).....	50c
Eye Lotion Liquid (Tablets).....	50c
Fit Remedy Liquid .....	50c
Cough Remedy .....	50c
Sulphur Tablets .....	50c
Puppy Tonic .....	50c
Rheumatic Tablets .....	50c
Diarrhoea Remedy Liquid (Tablets).....	50c
Chorea Tablets .....	50c
Goitre Remedy .....	1.00
Creoline Dog Wash and Disinfectant.....	35c
Shampoo .....	35c
Killflea Soap .....	35c
Killflea Powder .....	35c
Cream Dog Soap .....	35c
Creoline Dog Soap.....	35c

### Clayton's Cat Remedies

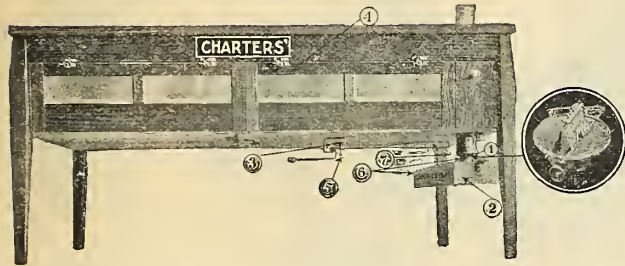
Mange Remedy .....	50c
Distemperine .....	50c
Distemperine Tablets .....	50c
Tonic Catnip Condition Tablets.....	50c
Mouth Wash .....	50c
Killflea Powder .....	25c
Cat Soap .....	25c

If wanted by mail add 10c for packing and postage



# POULTRY SUPPLY DEPARTMENT

## Charters Incubators

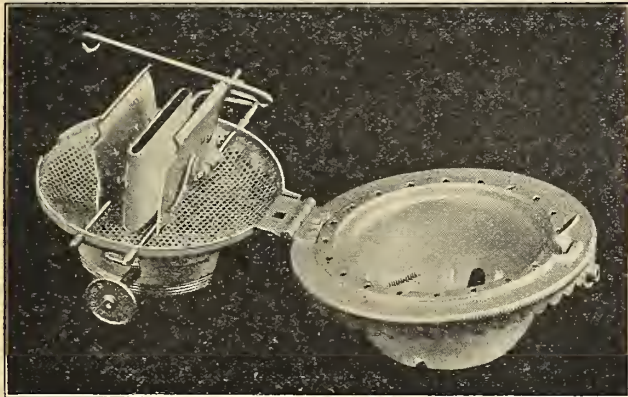


- ① Trim the wick once a week only.
- ② Fill the lamp once a week only.
- ③ Outside thermostat takes care of outside changes of temperature.
- ④ Special process for retaining moisture.
- ⑤ Regulator adjusted two or three times only during hatch.
- ⑥ Charters Burner and big tank reduce the fire risk.
- ⑦ Flame control reduces oil consumption.

## CHARTERS INCUBATOR AND REGULATOR

The Only Incubator Manufactured Which Readily Adjusts Itself to the Daily Variations of Temperature When Operated in an Open House

You don't need an incubator cellar to successfully operate a Charters, and this is one of the outstanding features of this modern incubator. The outside thermostat takes care of outside changes of temperature, without any worry to the operator.



Charters Burner, open

The next most important feature of the Charters is the burner, which operates with two shutters opening to and from each other on either side of the wick tube. This burner positively controls the flame, thereby reducing the oil consumption and fire risk. The lamp bowl holds a week's supply of oil, and the wick needs trimming but once a week. By special process the moisture is retained and regulated just right. Charters Incubator is a hot water machine with Charters regulator built in at the factory. Every detail of construction has been worked out with exceedingly great care, with the result that we consider it the best incubator on the market today.

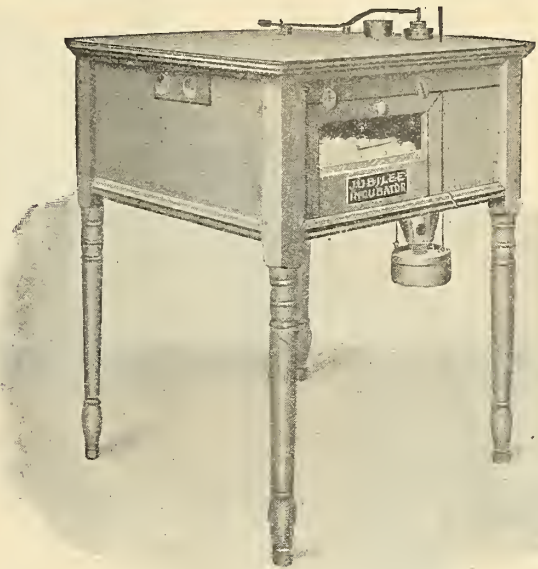
Prices f. o. b. Los Angeles

135 Egg, oil burning.....	Weight 117 lbs.	Price \$45.00
270 Egg, oil burning.....	Weight 235 lbs.	Price 57.00
540 Egg, Oil burning.....	Weight 350 lbs	Price 85.00

## CHARTERS REGULATOR

Charters Regulator may be attached to all standard makes of incubators. If you have an incubator which is unsatisfactory, equip it with a Charters Regulator, and you will have a new machine. It may be easily attached to other makes, and that it is a success is evidenced by the fact that more than three thousand of them are now in use. In ordering state what kind of a machine you have and the make. Each \$15.00 by express.

## JUBILEE INCUBATORS and BROODERS



Jubilee Incubator

We wish to call your attention to only a few of the main reasons why the Jubilee Incubator is such a success.

**First.** the material used is clear dry California Redwood, built by efficient workmen.

**Second.** The egg chamber is lined with heavy wool felt covered with a non-absorbent paper.

**Third.** The regulator is simple, sensitive and durable.

**Fourth.** The ventilation is correct in theory, and more important, is correct in practical operations.

**Fifth.** Moisture with the Jubilee system can be added or decreased without opening the door of the machine.

**Sixth.** The egg trays are framed from angle steel, galvanized, are easily washed and kept sanitary.

For further information ask for Jubilee leaflet. Made in the following sizes:

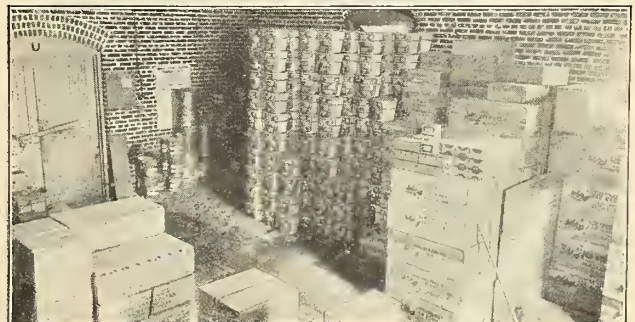
Capacity	Weight	Dimensions	Price
108-egg	110 lbs.	2 ft. 8 in. x 3 ft.	\$37.00
216-egg	150 lbs.	3 ft. 8 in. x 3 ft. 3 in.	48.00
324-egg	200 lbs.	3 ft. 8 in. x 5 ft. 3 in.	61.00
504-egg	260 lbs.	3 ft. 2 in. x 7 ft. 2 in.	78.00

F. O. B. Los Angeles

## Incubator and Brooder Supplies

All F. O. B. Los Angeles

Lamp Fount No. 2.....	Each 70c
Lamp Fount No. 3.....	" 85c
Lamp Chimneys, tin .....	" 25c
Lamp Chimneys, galvanized .....	" 50c
Lamp Burners, No. 2 .....	" 50c
Lamp Burners, No. 3 .....	" 85c
Lamp Wicks, No. 2 .....	Doz. 35c
Lamp Wicks, No. 3 .....	50c
Egg Testers, tin.....	Each 35c

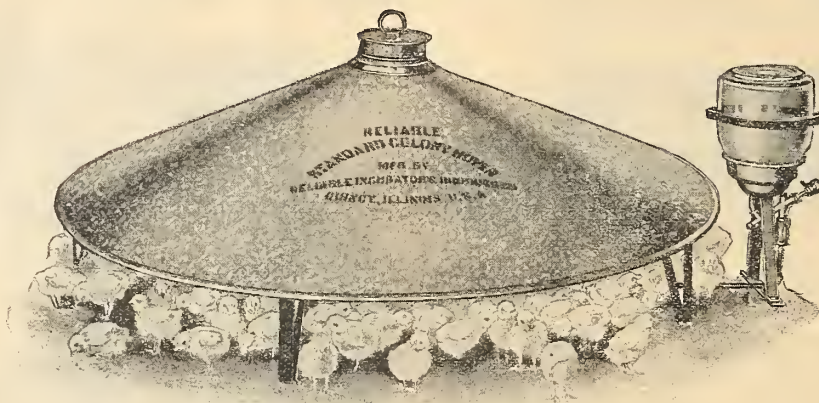


A carload of Drs. Hess & Clarke Poultry Panacea. See Page 109



## THE RELIABLE HOVER

Will Raise All Your Chicks the Scientific Way and Save You Time, Money and Trouble



1000 Chick Size Reliable Hover

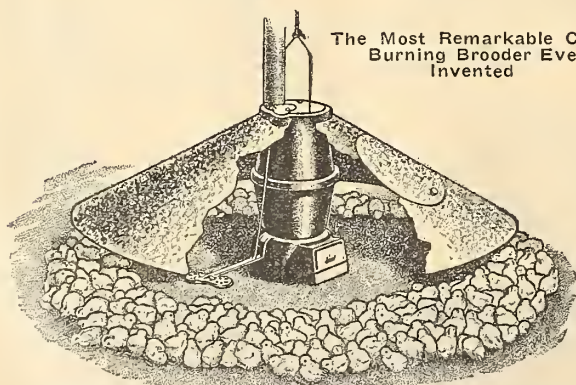
We buy Reliable Hovers by the carload. They are in use by the thousands throughout the big poultry sections of California, and every user is a booster for the Reliable. The heater is positively "fool proof." Has no valves to clog up and cause trouble. The burner is operated on an oil level and is adjusted to the maximum flame at the factory so that it is impossible to overflow it. The flame can be adjusted to any height desired by a simple lever device which is easy to understand and operate. All heaters are shipped out fully assembled and tested for leaks. All that is necessary is to fill the oil reservoir and touch a match to the lighting ring and you are ready for action. The cost of operating the Reliable is very low and you can fill the hover to capacity or you can brood as few as you like, with equal success.

The Reliable is automatically ventilated without any trouble to the operator, and the chicks which are placed in its care are assured of steady, healthy growth.

It is endorsed by many agricultural experiment stations, including the College of Agriculture at Berkeley, and hundreds of our own customers. If you are in doubt at all about the Reliable being the best brooder for you to buy, write to us, and let us explain more fully the merits of this wonderful brooder which is the result of forty-one years experience in artificial hatching and brooding by the manufacturer.

No.	Capacity	Price
0	350 Chicks	\$19.50
1	500 Chicks	21.00
2	1000 Chicks	25.00

## THE BUCKEYE STANDARD COLONY BROODER



The Most Remarkable Coal Burning Brooder Ever Invented

Showing a Standard Colony Brooder in Operation With 1,000 Chicks

Since January 1, 1915, 100,000 Standard Buckeye Brooders have been sold. This machine has such a wonderful record among poultry raisers that it is not necessary for us to go into detail describing it. It is a coal burner, burns either soft or hard coal; self-regulating; can be operated in any room in any temperature. It is the simplicity of the Standard and its reasonable price that makes it the most popular brooder on earth. The Standard is made in two sizes:

No.	Capacity	Weight	Price
No. 18	500 Chicks	74 lbs.	f. o. b. here \$27.75
No. 19	1000 Chicks	94 lbs.	34.25

## INTERNATIONAL SANITARY HOVER

The International Sanitary Hovers have stood every climatic test from Panama to Quebec. Practical poultrymen, state experiment stations, and poultry judges endorse it. You can raise chicks anywhere with the International Standard Hovers. No specially constructed houses are necessary. There is no better place than in your regular hen houses. Sanitary Hovers are as practical for small backyard poultry raisers as large poultry farms. They are warmest at the curtain—usable anywhere—ready for business wherever placed. No crowding or smothering of chicks; no kneeling in mud to get at the lamp; no cutting of holes or building of platforms. You want the best brooding device—you will get it in the Sanitary Hovers. Weight packed 30 lbs. Price \$13.50, f. o. b. here.



## EGG CARTONS

These are convenient for marketing eggs by the dozen. We have them in two styles, oblong, 3 eggs by four eggs, and long, 2 eggs by six eggs.

They are one thickness of pasteboard with light weight fillers. Both are one dozen egg size.

	Per Doz.	Per 100	Per 1000
3x4.....	\$ .25	\$1.85	\$16.00
2x6.....	.25	1.85	16.00

## PARCEL POST AND SHIPPING BOXES

These boxes are made of heavy corrugated paper, three thicknesses, and are especially adapted for parcel post shipping:

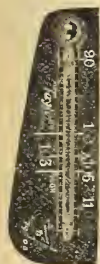
1 dozen size.....	15c each	30 egg size.....	35c each
2 dozen size.....	25c each	50 egg size.....	70c each
15 egg size.....	25c each		Postage Extra

## BABY CHICK SHIPPING BOXES

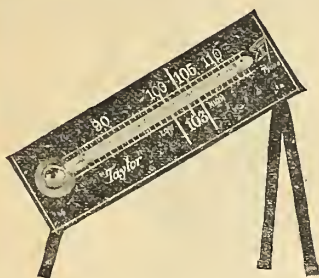
25 Chick size.....	\$ .30 each
50 Chick size.....	.40 each
100 Chick size.....	.60 each
	Postage extra



## INCUBATOR AND BROODER THERMOMETERS



No. 5774



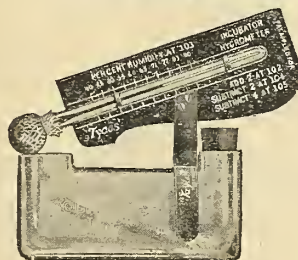
No. 5770



No. 5780

Many persons using Incubators and Brooders fail to understand the importance of having a thoroughly tested and reliable thermometer. Many a fine hatch is lost, and many a fine brood of chicks killed by using a poor thermometer. Use great care in purchasing a perfect thermometer. Our thermometers are thoroughly tested and accurate.

## INCUBATOR THERMOMETERS



Tyco's Hygrometer

No. 5774	.....	\$.90 each
No. 5782, certified	.....	1.25 each
No. 5770, with legs	.....	1.00 each
No. 5780, flat	.....	.90 each
No. 3017, Jubilee	.....	1.00 each
No. 5796, Hygrometer	.....	2.00 each

## BROODER THERMOMETERS

No. 5794, flat	.....	.75c each
No. 5790, Wood frame	.....	\$1.75 each

## Moisture Requirements

The amount of moisture required, during the period of incubation, varies from 65 per cent to 53 per cent. For the convenience of our friends and patrons we give the following table of the percentage of moisture adapted to each week of incubation:

First week there should be about 65 per cent of moisture present;

Second week there should be about 60 per cent of moisture present;

Third week there should be about 55 per cent of moisture present;

At the time of hatching, about 55 per cent of moisture.

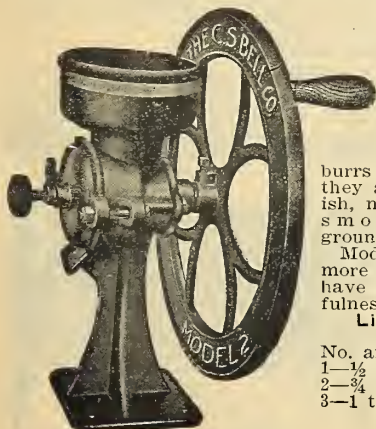
### MODEL HAND GRINDER

The original family grist mill—not a cheap imitation. Model Mills have more than one outright copy, but are far superior. Model Mills have harder burrs which run accurately; they are painted to a high finish, not dipped. The parts are smooth h. castings, carefully ground and fitted.

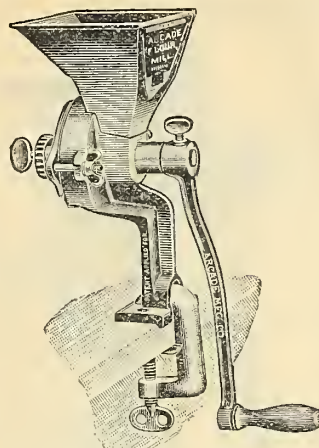
Model Mills last longer, do more and better grinding, and have a broader range of usefulness.

#### List of Sizes We Carry

No. and Capacity.	Wt.	Price
1— $\frac{1}{2}$ to 1 bu. per hr.	20	\$4.50
2— $\frac{3}{4}$ to 2 $\frac{1}{2}$ bu. per hr.	35	7.00
3—1 to 3 bu. per hr.	63	9.00



Model Grinder



Arcade Flour Mill

### ENTERPRISE BONE AND GRAIN MILL

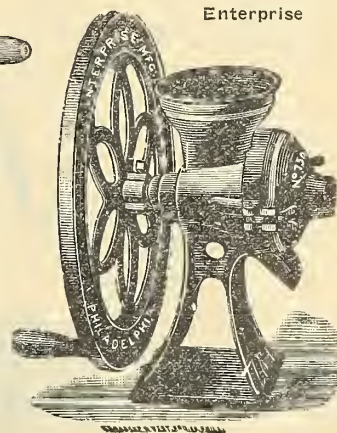
One of the essential tools for poultrymen. Can be used for cracking grain, bone, shell or grit.

The Burrs are made from cold chilled steel of the best quality. This mill has for many years been the standard machine of the market, on account of its fine workmanship and durability. If you want a mill that will last and do your work, get the Enterprise. Weight and crate, 75 lbs. Price \$18.00 f. o. b. here.

## GRINDING MILLS

The Arcade Flour Mill is called the "Home Mill." It is adapted for grinding whole grains into flour. There is not another machine on the market that compares with this mill for the housewife. It is made of best hardened steel, beautiful finish and needs no repairs except the burrs, which may be replaced at a very low price.

Weight of machine, 10 lbs. Price \$4.50 f. o. b. Los Angeles. Extra Set Burrs 75c.



Enterprise

## Stover

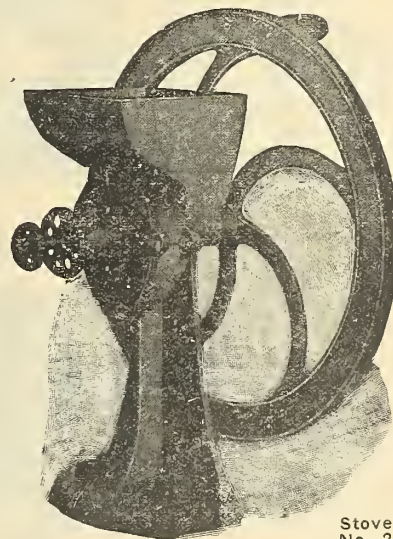
This machine grinds oats, peas, dry bone, shells, etc., for feeding to poultry.

No. 32—16-inch fly wheel. Capacity 2 bu. per hour. Weight 40 lbs. Price \$7.50 f. o. b. here.

No. 33—18-inch fly wheel. Weight 45 lbs. Price \$8.00 f.o.b. here.

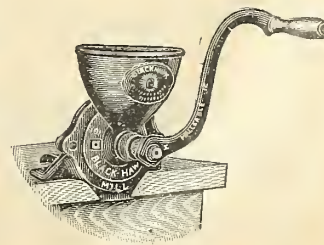
No. 35A—Equipped with pulley only for operation by  $\frac{1}{2}$  to 2 horse power. Weight 50 lbs. Price, \$11.00 f. o. b. here.

No. 35B — Fitted with combination fly wheel and pulley. For hand or power. Weight 60 lbs. Price \$12.00 f. o. b. here.

Stover  
No. 22

## Black Hawk Feed Mill

The grist mill without a fault. Light running, well built. It will last a lifetime. Grinds all kinds of grain, fine or coarse. Price \$5.00 f. o. b. here.



Black Hawk Feed Mill



## BONE CUTTERS

### MANN'S NO. 7

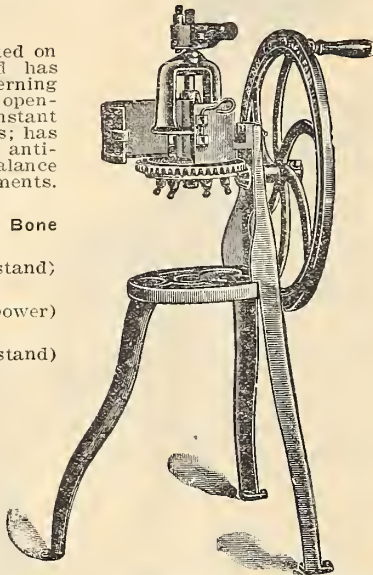
The New No. 7 is mounted on a strong iron stand and has patent automatic governing spring feed. Large, open-hinged cylinder, giving instant access to all working parts; has six knives, gear guard, anti-clog device, heavy balance wheel and other improvements. (See cut).

Price List of Mann's Bone Cutters f. o. b. here.

No. 7 (B. W. and iron stand)  
Price \$23.00, wt. 107.

No. 7½ (hand or power)  
Price \$30.00, wt. 150.

No. 9 (B. W. and iron stand)  
Price \$35.00, wt. 163.



Model No. 7—Price \$23.00

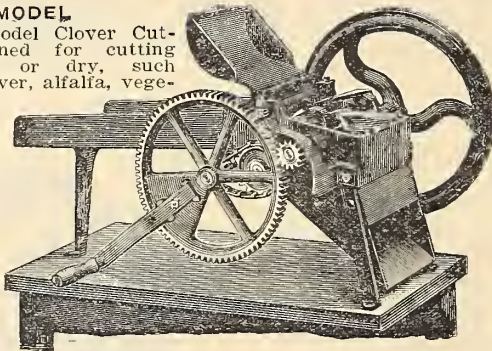
## CLOVER CUTTERS

### NEW MODEL

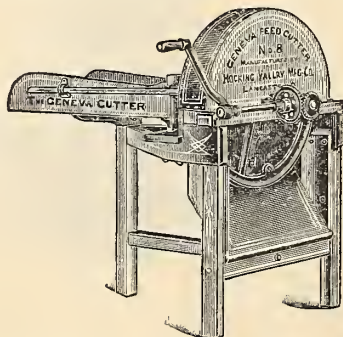
The new Model Clover Cutter is designed for cutting either green or dry, such growths as clover, alfalfa, vegetable tops, etc. into eighth-inch lengths.

Made only in one size. Knives can be adjusted and easily sharpened.

Price \$22.50  
f. o. b. here.



## GENEVA CLOVER CUTTERS



This machine is designed for large poultry raisers and is the most satisfactory machine on the market. The knives are fastened to the fly wheel and will cut from ¼ to 1½ inches. May be used as a hand or power machine. For a power machine remove crank parts and replace with pulley. Light running. Built to last a lifetime. The cutting parts are covered by a hood to protect the operator. Built in three sizes:

No. 6—Wt. 200 lbs. Price \$48.00.

No. 8—Wt. 240 lbs. Price \$52.00.

No. 10—Wt. 280 lbs. Price \$70.00.

No. 10 is equipped with pulley wheel and hand attachment. Pulley for No. 6 and No. 8, \$3.00.

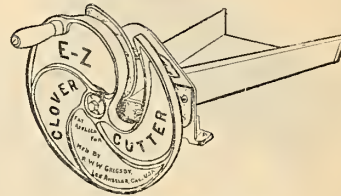
Knives for No. 6 and No. 8, \$2.00 each.

F. O. B. Los Angeles

## E. Z. CLOVER CUTTER

A SMALL CUTTER OR A SMALL FLOCK

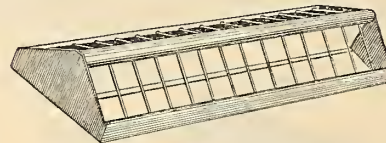
Will cut green or dry alfalfa, straw, fodder, corn and vegetable tops. The heavy hand wheel acts as a balance wheel and makes the machine of easy operation. The knife and cutter bar are made of crucible steel and are easily adjusted. Packed one in a carton and may be sent by parcel post. Weight 15 lbs. Price \$8.50 f. o. b. Los Angeles.



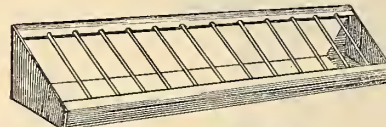
E Z Clover Cutter

## SINGLE AND DOUBLE CHICK FEEDERS

Any of the following articles ordered by Parcel Post add postage.



A & M Double Chick Feeder



A & M Single Chick Feeder

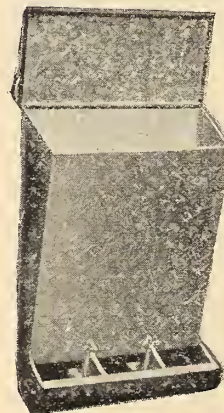
### DOUBLE FEEDERS

12 in. 50c, wt. 1 lb.  
18 in. 70c, wt. 1½ lb.  
24 in. 75c, wt. 2 lbs.  
36 in. \$1.10, wt. 2½ lbs.

### SINGLE FEEDERS

12 in. 35c, wt. 1 lb.  
18 in. 45c, wt. 1½ lb.  
24 in. 60c, wt. 2 lbs.  
30 in. 90c, wt. 2½ lb.  
F.O.B. Los Angeles

## A & M FEED HOPPERS

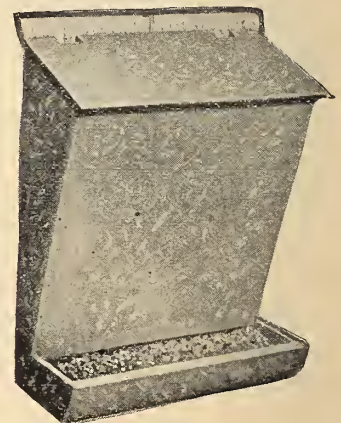


Round Bottom Dry Mash Hopper

Heavy galvanized steel 12 inches wide. Just the feeder for small flocks. Wt. 4 lbs. Price \$1.25 f. o. b. here.

### Combination Feeder

Two compartments for grit and mash. Width 8 inches. Weight 3½ lbs. Price, \$1.00.



## GREAT WESTERN DRY MASH FEEDER

This feeder comes in three sizes: 18, 24 and 30. Made of heavy iron. Price: 18 in., \$1.75, wt. 7 lbs.; 24 in., \$2.00, wt. 9 lbs.; 30 in., \$2.25, wt. 10 lbs., f. o. b. Los Angeles.

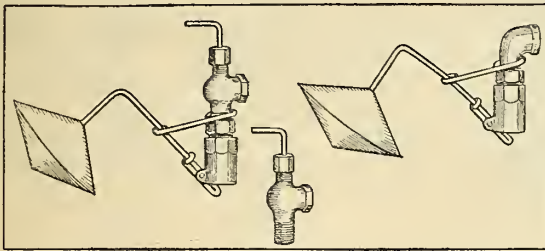


Great Western Dry Mash Feeder



## "THE WATER BOY"

### Automatic Fountains for Poultry and Pet Stock



No. 1

No. 2

No. 3

"The Water Boy" never forgets to fill the water jar, but furnishes just enough and no more.

It makes no difference to "The Water Boy" how large the dish or how small the pan, if so much water is required, it gives that much and no more.

For the baby chicks, the flock of hens, ducks, pigeon baths, fish ponds, horse troughs or any vessel where a constant supply of water is needed without an attendant.

Number 1 is called "The Water Boy" Combination, as the upper part is a shut-off and pressure regulator combined with the "Water-Boy" automatic float valve. The advantages of this combination are to regulate any pressure and flow, act as individual shut-off in case automatic becomes clogged, thus avoiding disturbance of the rest of the water line, and the fowls need not be without water if the one needs repair. Price \$1.50 postpaid.

Number 2 is a shut-off threaded at both ends to allow for attachment to water pipe at one end and an automatic at the other, or may be used by itself as faucet or drip. Price 50c. postpaid.

Number 3 is "The Waterboy Automatic Valve," with St. Ell. Attached like a faucet to 1/4-inch pipe, fills any dish and shuts off automatically. No special dishes to buy. No leathers, springs or adjustments to monkey with. Price \$1.25 postpaid.

"The Water Boy" automatic fountain fills the dish and shuts off the water automatically.

Will supply your poultry or pet stock with fresh water without waste or overflow.

Let "The Water Boy" do the work. It will save you money, time and worry.

You don't have to buy a special dish to use it with. Use the dish you have on hand.

Water costs money. Why let it run to waste?

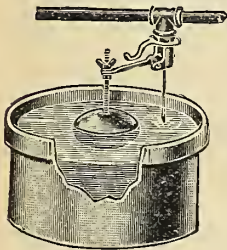
Waste water in a poultry yard means mud puddles, reeking with disease germs; it also means wet and cold feet for your hens, causing muscles to contract and hold back the eggs.

Notice the first warm day after a cold spell how the hens let loose the eggs, because their muscles have relaxed.

What relative value is water to an egg?

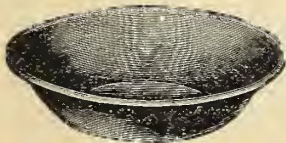
An egg is 70% water.

## THE "DANDY" AUTOMATIC FOUNT



Something poultry raisers have been seeking for years—an automatic fountain that will do the work and keep at it. We have in the "Dandy" a fountain made of brass and nickel plated, with a ground valve which fits perfectly, thereby prevents clogging. Can be attached to any pipe same as faucet. Does not corrode or rust. Price 90c each, postpaid.

## PIGEON NESTS



Fills a long-felt want for all squab breeders. Wood gets filthy and vermin-laden in a very short time. Iron or earthen-ware is cold and bad for birds.

Indurated Fibre is lighter than wood, will not warp or break, has a brown finish (not polished), which makes it easy to clean. Impervious to vermin or moisture and is a

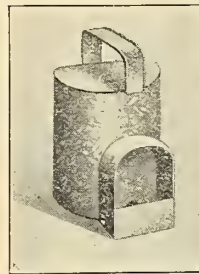
non-conductor of either heat or cold. A money-saver, and will increase the hatch. Sanitary, handsome, practically indestructible and cheap. Has hole in bottom for screw to hold nest firm and steady. Each 35c. Dozen \$3.75.

## Poultry Remedies and Feeds

Many remedies for poultry have been placed on the market in past years, but we have found Dr. Hess' & Clark's remedies to be the most reliable and to give better satisfaction than any other, and we believe Dr. Hess' Panacea to be the best egg producer and tonic for poultry so far discovered. Try it and you will never be without it.



## FLAT BACK WALL CHICKEN FOUNT



This fountain can be used very conveniently for Pigeons, Chickens, Ducks and other poultry. Well made of heavy galvanized iron. To hang on the wall at any convenient height from the ground.

1 qt. size, weight 1/2 lb. .... 50c each  
2 qt. size, weight 1 lb. .... 90c each  
1 gal size, weight 1 1/2 lbs. .... \$1.20 each  
6 qt. size, weight 3 lbs. .... \$1.50 each

F. O. B. Los Angeles

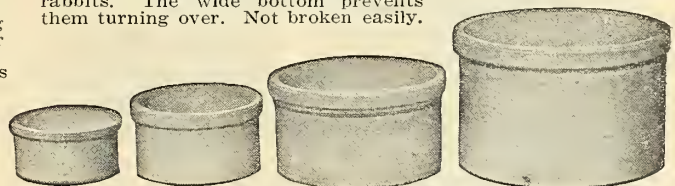
## SANITARY STONE FOUNTS

1 qt. 30c. Wt. 4 lbs.  
2 qt. 45c. Wt. 6 lbs.  
1 gal. 55c. Wt. 7 1/2 lbs.  
6 qt. 90c. Wt. 9 1/2 lbs.

If ordering by mail or express add 25c for packing charges for one or more fountains.  
F. O. B. Los Angeles

## RABBIT DRINKING FOUNTAIN

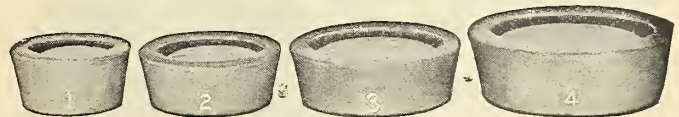
These fountains are made especially strong and durable for rabbits. The wide bottom prevents them turning over. Not broken easily.



Rabbit Drinking Fountains

1 pt. 15c each (per dozen \$1.50). Weight 1 lb. each.  
1 qt. 20c (per dozen \$2.00). Weight, 2 lbs. each.  
1/2 gal. 30c each (per dozen \$3.00). Weight 4 lbs. each.  
1 gal. 40c each (per dozen \$4.00). Weight 4 1/2 lbs. each.  
6 qt. 60c each (per dozen \$6.00).  
8 qt. 70c each (per dozen \$7.20). F. O. B. Los Angeles.

**Rabbit Feeders.** These are made of stoneware and glazed with a flanged edge for feeding rolled barley. The flanged edge prevents rabbit from throwing out the grain and wasting it. Comes in white, glazed.



Rabbit Feeders

No. 1, 20c each (1 dozen \$2.00). Weight 1 lb. (each).  
No. 2, 25c each (1 dozen \$2.50). Weight 2 lbs. (each).  
No. 3, 30c each (1 dozen \$3.00). Weight 2 1/2 lbs. (each).  
No. 4, 40c each (1 dozen \$4.00). Weight 4 lbs. (each).  
If ordered by mail or express add 25c to order for packing, etc.

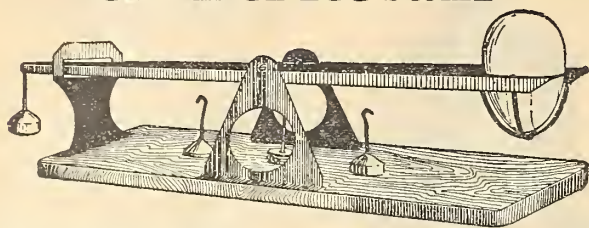
## A & M ROOST HANGERS



This hanger made of iron, strong and durable. Has a bowl which you fill with liquid lice killer, thus preventing lice and mites from getting on the roost and then on the bird. You should not be without them. Price 75c postpaid.



## GILT EDGE EGG SCALE



Is the only Egg Scale that will give the correct grading within a range of 17 to 20 ounces to the dozen. Standards of eggs as follows: No. 1 Pullet, 20 to 22 oz.; No. 2 Pullet, 19 to 20 oz. Price \$2.00; postpaid, \$2.10.

## LINCOLN EGG GRADER

Note - the correct position of placing egg on grader



A simple and accurate scale. Place large end of egg in hole at right angles to bar. If grader remains stationary, egg is less than 18 ounces per dozen or fewer. If grader sets on 4 points, egg is between 18 and 22 ounces per dozen, or pullet. If grader is tilted on hole end egg is 22 ounces or more per dozen or standard. Price 50c postpaid.

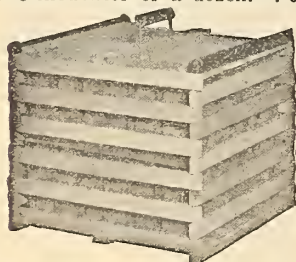
## SEARCHLIGHT EGG TESTER



Infertile eggs in an incubator mean a loss of time and money. The testing of eggs is a very important part of incubation and a little expense at the beginning will pay well in the end. The Searchlight will do the job quickly and do it well. It should be a part of your equipment, whether you are operating one incubator or a dozen. Postpaid \$5.00.

## HUMPTY-DUMPTY EGG CARRIER

One of the handiest egg carriers on the market. This carrier will hold twelve (12) dozen eggs. Can be folded flat for shipment and is made of strong but light wooden slats fastened with strong steel wires. Very handy and something every poultryman should have. Price, 95c each, f. o. b. Los Angeles. Weight 6 lbs.



## A & M LICE KILLING NEST EGGS

Our Lice Killing Nest Eggs are almost an exact imitation of the real chicken eggs, and contain a powerful disinfectant which is guaranteed to expel lice and vermin. Put up in boxes of one dozen each, at \$1.00 per box. Weight 2 lbs.

### CHINA NEST EGGS

We handle only the best grade of glass eggs, strong and durable, 60c dozen; 65c postpaid.



## ALBATROSS CREOLA

Keeps the Coops and Barns White and Sanitary.

Albatross Creola is a white disinfectant paint in dry powdered form and is ready for use when mixed with cold water. It is one of the best forms of health insurance for stock and poultry. May be applied to any solid surface, such as wood, cement, brick, stone or iron, and when dry will be snow white. It is economical in cost, is durable, easy to apply and is a powerful disinfectant. It kills mites, fly eggs and lice.

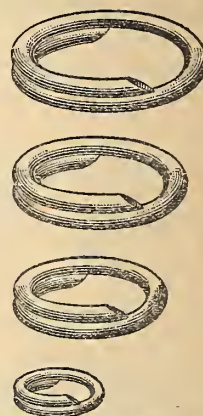
Price—5 lb. package 85c; 25 lb. drums, \$4.25; 50 lb. drums, \$8.00. F. O. B. Los Angeles. Add 15c for packing and postage.

## LEG BANDS FOR POULTRY

Spiral Leg Bands are made in six colors and all sizes, and are put on and taken off like a key ring. Can't drop off. Colors are black, white, red, yellow, blue, green, purple, light blue, maroon and pink. In ordering please state color wanted, also name of breed. Leghorn, Rocks, Rhode Island Reds or Turkeys. It enables us to fill the order satisfactorily. Prices:

12 Bands for.....	\$ .15 postpaid
25 Bands for.....	.25 postpaid
50 Bands for.....	.50 postpaid
100 Bands for.....	.75 postpaid
500 Bands for.....	3.60 postpaid
1000 Bands for.....	7.00 postpaid

Spiral Band for Chick, Bantam and Pigeon size as follows: 12 for 15c; 25 for 25c; 50 for 40c; 100 for 65c; 500 for \$3.00; 1000 for \$5.25. These bands come in the same colors as given above for Poultry Bands.



Spiral Leg Bands

## SMITH SEALED BANDS

Smith Sealed Bands were put on the market for a purpose. That purpose was to prevent dishonesty in the handling of scored birds and to protect the purchaser of same. Price—(12 for 25c) (25 for 50c) (50 for 85c) (100 for \$1.50) postpaid.



FLAT ALUMINUM LEG BANDS  
These bands fit any variety fowls.

Price—(12 for 15c) (25 for 30c) (50 for 50c) (100 for 75c) postpaid.

## POULTRY INSTRUMENTS CAPONIZING SET

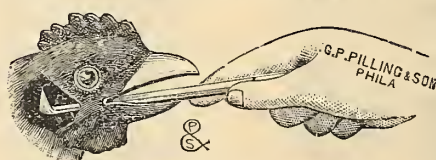
This set is one of the latest design. It is a combination of tools that can be used with one hand and seldom causes the operator to slip and cause the loss of the bird.

We carry the following sets:  
Pillings Cornell .....\$5.00  
Pillings Farmer ..... 4.00  
Pillings Special ..... 4.50

We suggest that you use either the Cornell or Farmer. They are packed in a fine oak case. Each set contains full instructions.



## PILLING ANGULAR KILLING KNIFE



Showing the Angular Killing Knife

By simply turning the wrist the jugular vein and spinal cord are cut, thereby bleeding the fowl, allowing the feathers to be removed without using water. 85c postpaid.

## PILLING FRENCH POULTRY KILLING KNIFE

Every poultry raiser should have one of our Killing Knives. They are made of a finely tempered instrument steel with nicked handle; will last a lifetime. Sent postpaid on receipt of 85 cents. Don't wait. Send for one now. Sent securely packed by mail on receipt of price.



## PETTEY'S POULTRY PUNCH



One of the most convenient punches made. It is small and easy to operate, cutting a clean hole every time. Price 25c; postpaid 30c.



## DRS. HESS AND CLARK'S POULTRY FOODS AND REMEDIES

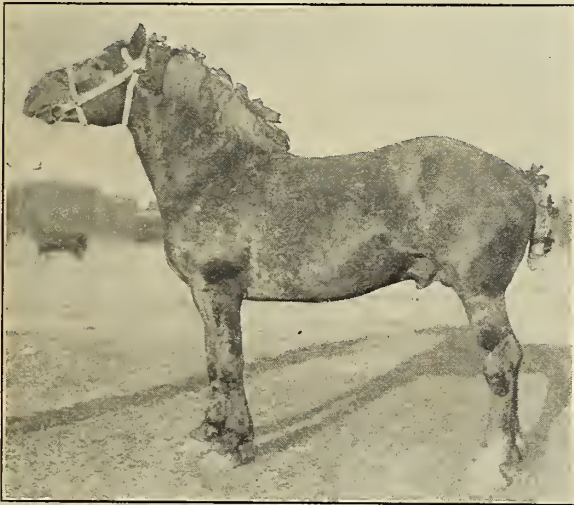


We are the Pacific Coast agents for this famous line of foods and remedies, and we cannot recommend them too highly. Every package is first-class, and will do all that is claimed for it. We want to call particular attention to Pan-a-nea, which is a tonic to help make hens lay. It should be fed all the year round in dry mash, and particularly at moulting time. A tablespoonful in soft feed once a day to every 20 or 25 hens keep the flock in excellent condition, and will without doubt increase the egg production.

Dr. Hess Instant Louse Killer is another article worthy of special mention. It may be used with good results for lice on poultry and stock, ticks on sheep, fleas on dogs, moths, bed-bugs and certain bugs infesting cucumber, squash, etc.

Dip and Disinfectant		Poultry Panacea	
Small .....	.60c	1½ lb. pkgs. ....	.30c
Quarts .....	.90c	3 lb. pkgs. ....	.60c
2-quarts .....	\$1.50	7 lb. pkgs. ....	\$1.25
1 gallon .....	\$2.25	25 lb. pail .....	\$3.50
5-gallon can .....	\$9.50		
Fly Chaser		Roup Remedy	
1-qt. size .....	.75c	4 oz. cans .....	.25c
2-qt. size .....	\$1.25	10 oz. cans .....	.50c
1-gal. size .....	\$2.00	White Diarrhoea Remedy ..	.25c
Instant Louse Killer		White Diarrhoea Remedy ..	.50
1 lb. pkgs. ....	.30c		
2½ lb. pkgs. ....	.60c		

## HAVE THOROUGHbred HORSES



Where and how can I get them. Write Western Horse Association, 620 South Spring St., Los Angeles, Cal.

In this day of automobiles there is yet much use for the horse. The gardener and rancher can not well get along without a horse.

Then have thoroughbred horses. They are worth many times the value of a scrub because they are capable of better training, more work, and to the person that loves a horse there is joy in having a well bred animal.

If you have one or more horses you want them looking nice when harnessed for action.

For serviceable and stylish harness, saddles, etc., see Lichtenberger & Ferguson Co., 264 South Los Angeles St., this city.

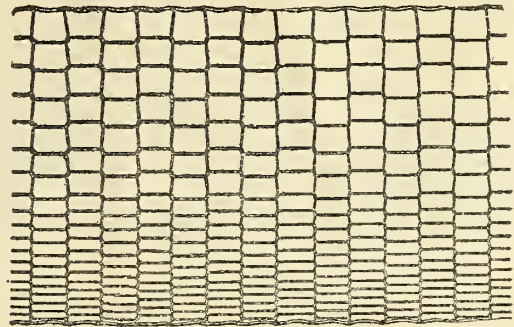
You also want your horses healthy and comfortable in order to get the best service, and if you are a lover of horses, you will feed them Dr. Hess Stock Tonic to keep them healthy and Dr. Hess Fly Chaser to keep them comfortable.

Fly Chaser (Per qt. 75c) (gal \$2.00).

Stock Tonic (Pkg. 35c) (1 case 3 doz. \$6.00) (25 lb. pail \$3.50). f. o. b. Los Angeles.

## Warner Junior Poultry Fencing

Warner Junior Poultry Fence is made of No. 18 galvanized wire with No. 14 wire top and bottom, stay wires placed 4½ inches apart. At the bottom of the fence mesh is 1½ inch and gradually widens as the top is reached.



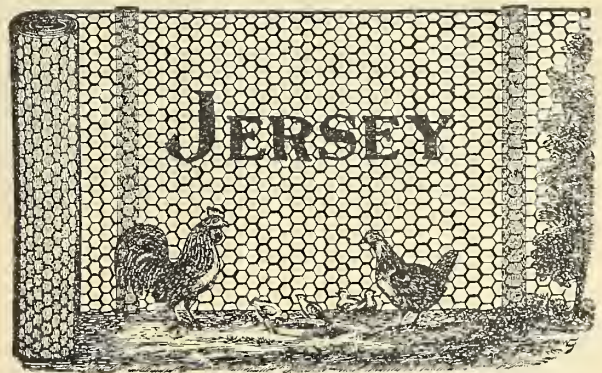
THE WARNER JUNIOR POULTRY FENCE  
Put up in 10 rod rolls.

Weight	f.o.b. here
Price	
3 ft. wide, 33 lbs., per roll.....	\$5.90
4 ft. wide, 36 lbs., per roll.....	6.60
5 ft. wide, 40 lbs., per roll.....	7.60
6 ft. wide, 48 lbs., per roll.....	8.50

Subject to market fluctuations

## Jersey Poultry Fencing

This wire is made of the full 20 gauge hand drawn steel wire galvanized after weaving. Each roll contains 150 running feet.



We carry the following sizes:

				Wt. Price						Wt. Price			
1	ft.	2	in.	mesh,	10..	\$ 2.05	1	ft.	1	in.	mesh,	16..	\$ 4.70
1½	ft.	2	in.	mesh,	16..	2.95	1½	ft.	1	in.	mesh,	24..	6.75
2	ft.	2	in.	mesh,	22..	3.70	2	ft.	1	in.	mesh,	32..	8.45
3	ft.	2	in.	mesh,	28..	5.00	3	ft.	1	in.	mesh,	48..	11.65
4	ft.	2	in.	mesh,	34..	6.70	4	ft.	1	in.	mesh,	64..	15.50
5	ft.	2	in.	mesh,	40..	8.40	5	ft.	1	in.	mesh,	80..	19.50
6	ft.	2	in.	mesh,	46..	10.15	6	ft.	1	in.	mesh,	96..	23.40

## WIRE SHIPPING COOP



This Coop is made of galvanized steel wire and bars which are electrically welded. It is strictly sanitary, will not rust, has bottom made of seasoned hardwood with cleats on top and on under sides. Bottom can be quickly and securely attached and can be quickly detached for shipping empty. It is built on taper, allowing crates to be telescoped when shipping empty. This coop is very light, weighing only 24 lbs. is very strong; will last for years. Positively the most durable, economical and satisfactory shipping coop made.

Standard size, 27x41x13 in. high, weighs 24 lbs. Price \$4.35 each

Turkey " 27x41x20 in. high, weighs 27 lbs. Price 5.25 each

Extra bottoms for coop.....Price 1.50 each

F. O. B. Los Angeles



## PIGEON FOOD

Pigeon Food, A & M.....	.....
A & M Scratch Food No. 1.....	.....
Bird Bravel, 4 doz. case.....	.....
Bird Gravel, 100-lb. bag.....	.....
Granite Grit, 100-lb. bag.....	.....
Pigeon, Red Wing.....	.....
Blood Meal.....	.....
Grit.....	.....
Ground Flax, Pure.....	.....
Cudahy's Beef Scraps.....	.....
Fish Meal, for Poultry.....	.....
A & M Chick Food Special.....	.....
A & M Growing Chick Food.....	.....
A & M Egg Mash, 90-lb. sack.....	.....

Prices quoted on application.

## MISCELLANEOUS

Write for Quantity Price

Bird Seed, mixed.....	Per lb. 15c
Canary, plain.....	Per lb. 15c
Hemp.....	Per lb. 15c
Rape, common.....	Per lb. 15c
Sunflower.....	Per lb. 15c
Flax seed.....	Per lb. 15c
Vetch, for pigeons.....	Per lb. 15c
Tobacco stems.....	Per lb. 15c
Oyster Shell, medium.....	\$1.50 per 100 lbs.

Prices subject to market fluctuations.

Clam, common, machine screened.....	Price on application
Oyster, medium.....	Price on application

## CONDIMENTS

Mustard, ground.....	Per lb. 35c
Ginger, ground.....	Per lb. 35c
Pepper, Chili, ground.....	Per lb. 20c
Pepper seed for poultry.....	Per lb. 20c
Salt, Leslie's Loop.....	Per brick 25c
Salt, Leslie's Brick, plain (8 lbs.).....	Per brick 50c

## PACKAGE GOODS

Charcoal.....	15c pkg.
Hydrated Lime.....	25c pkg.

## Devonshire's Earth Salts

Especially for Poultry, Rabbits, Cattle and Horses

Devonshire's Earth Salts increase the milk yield of cows. Devonshire's Earth Salts are assimilated by all living things in the same way as the natural salts in the foods.

Devonshire's Earth Salts. Tuberculosis is due to a shortage of the earth salts in the body.

Devonshire's Earth Salts for stock and poultry are put up in packages of three sizes.

Price, 1 lb. packages, postpaid 60c.

Price, 2 1/4-lb. packages, \$1.15 postpaid.

Price, 10-lb. packages, \$3.50 f. o. b. Los Angeles.

Rheumatism is due to an excess of acids in the body. Devonshire's Earth Salts alone enable nature to absorb these acids and invariably cure the disease.

Dyspepsia and all forms of Nervous Disease—The Earth Salts alone create the gastric juice and nourish the nervous system.

We have handled Devonshire's Earth Salts for the past four years, and it has given general satisfaction. Therefore we do not hesitate to recommend it.

## "EGGS"

ATTENTION. Farmers, Poultry Men, Egg Producers and Consumers.. A Great Discovery, Momentous in Economic Possibilities

THE FLEMING EGG PRESERVER  
Patented in United States and Canada

Makes 15 cent Eggs worth 50 cents—Costs 2 cents dozen.

Preserves Spring Eggs for Winter Use Fresh and Sweet as day they were laid, without Cold Storage or Refrigeration.

Discounts all other processes ten to one. An absolutely reliable and unqualified success.

2 oz. tins sufficient to preserve 50 doz. eggs, 85c postpaid.

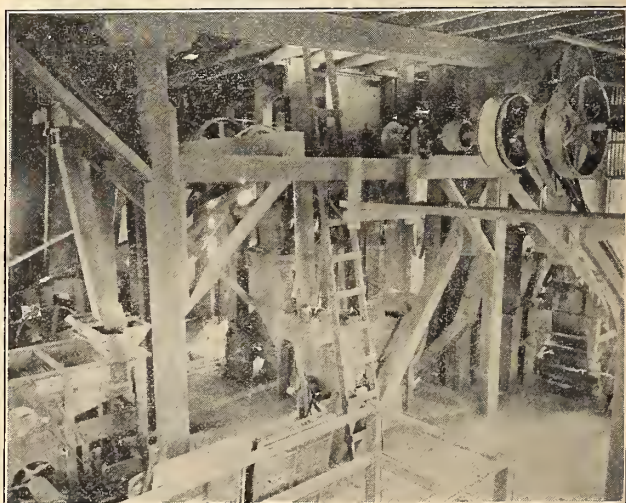
4 oz. tins sufficient to preserve 100 doz. eggs, \$1.35 postpaid.

## LITERATURE FOR POULTRYMEN

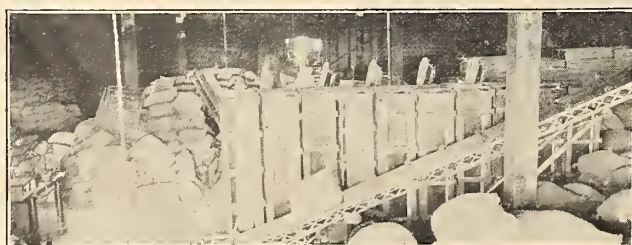
	Price	Pstpd.
American Standard of Perfection.....	\$2.50	\$2.70
Artificial Incubation and Brooding.....	1.00	1.15
Barred White, Buff, Plymouth Rocks.....	1.00	1.15
Bantam Fowl.....	.50	.60
Broilers and Squabs.....	.60	.70
California Poultry Practice, by Mrs. Susan Swaysgood.....	1.00	1.20
Call of the Hen, by Walter Hogan.....	2.00	2.25
Canary Keeping for Amateurs.....	.85	.90
Chick Book.....	.50	.50
Diseases of Poultry.....	1.00	1.10
Duck Culture, by James Rankin.....	.90	.95
Ducks and Geese.....	.75	.85
Eggs and Egg Farm, by Stoddard.....	.65	.70
Hog Book, by W. S. Gullford.....	2.00	2.25
Hutch Record Cards, per dozen.....	.15	.25
Leghorns, Brown, White and Buff.....	1.00	1.15
Milk Goat Dairy, by G. H. Wickersham.....	.50	.60
National Standard Squab Book.....	1.00	1.15
Pigeon, The, 9th edition, by Meersch.....	.25	.35
Profitable Culling and Selective Flock Breeding, compiled by Jackson & Curtis.....	1.50	1.70
Poultry Houses and Fixtures.....	\$1.00	\$1.15
Poultry Architect, by Fiske.....	.75	.85
Poultry Account Book.....	.40	.50
Poultry Culture.....	1.50	1.70
Practical Poultry Keeping, by Wright.....	2.00	2.20
500 Questions and Answers, by J. W. Darrow.....	.25	.30
Rabbits, Fur Bearing, by Ritchey.....	.50	.60
Rabbit Pedigree Blanks, per dozen.....	.25	.35
Rabbit, The Western Book, by Ritchey.....	.60	.70
Rabbit, 9th edition.....	.25	.35
Rabbit Culture and Standard, by Deardoff.....	.60	.70
Reliable Poultry Remedies.....	.25	.35
Rhode Island Reds.....	1.00	1.10
Successful Poultry Keeping.....	1.00	1.05
The New Egg Farm, by H. H. Stoddard.....	1.50	1.70
Turkeys, All Varieties.....	.75	.85
Turkeys, How to Grow Them, by Herbert Myrick.....	1.50	1.60
Two Hundred Eggs a Year per Hen.....	.50	.60
Use of Artificial Light to Increase Winter Egg Production.....	1.50	1.70
Valuable Points on the Breeding of Pheasants, by Fred J. Sudow.....	1.00	1.15
Western Poultry Book.....	1.00	1.10
Wyandottes, The.....	1.00	1.10
The New Egg Farm, by H. H. Stoddard.....	1.50	1.70



Warehouse No. 3. Stacks of Melilotus Indica. See next page.

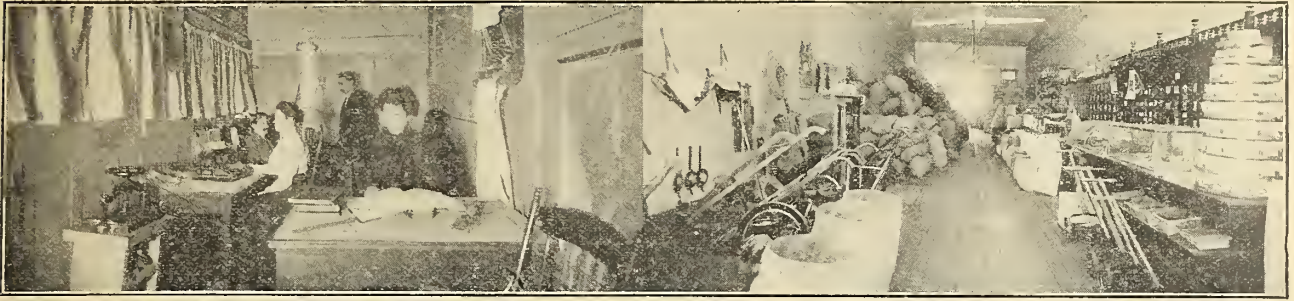


Some of the Machinery in Our Cleaning Mill



Warehouse No. 4, Full of Incubators and Poultry Supplies





OFFICE AND ENTIRE FORCE, 1898  
See our present force on Page 94

ENTIRE STORE, 1893  
Total Floor Space 3,000 square feet.

See Page 1, Our Main Store with Offices and Mail Order Department. Also our Warehouse, 1934 E. Fifteenth St., See Page 26.  
Our Market Branch Store, 767 So. Central Ave.



A corner in our office, 1921



Interior View of Market Branch Store



Warehouse No. 1, Shipping Department



Warehouse No. 2, Stacks of Alfalfa Seed



At the rear of our warehouse we have a garden which is very valuable for trying out seeds for germination and type; also to demonstrate to our employees and customers the reliability of our seeds.



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**620 South Spring Street, Los Angeles, Cal., U. S. A.**

Name \_\_\_\_\_

Street \_\_\_\_\_ P. O. Box \_\_\_\_\_

Post Office.....R. F. D. No.....

County ..... State.....

Date....., 192      Forward goods by mail, express, or freight.

Name of Express Office or  
Station

## P. O. Money Order.....

Cash .....

Stamps .....

Total.....

NOTICE.—We give no warranty, express or implied, as to description, quality, productiveness or any other matter of any seeds or bulbs we send out and we will not be in any way responsible for the crop. If the purchaser does not accept the goods on these terms, they are to be returned at once. Aggeler & Musser Seed Co.

[illegible]

(OVER)



## EXTRA ORDER SHEETS AND RETURN ENVELOPES FURNISHED ON REQUEST

## NAME OF ARTICLE WANTED

Brought forward

Garden Seeds priced by the packet, ounce, one-fourth pound, one pound and ten pounds are postpaid. Onion Sets, Grass and Field Seeds and Sundry Articles are not postpaid. In ordering one pound lot, add ten cents per pound for postage and packing, and on larger quantities apply parcel post charges.

DOMESTIC PARCEL POST RATES On Seeds, Plants, Bulbs, Roots, Books, Tools, etc. within the U. S. and Possessions		First pound or fraction	Each additional pound or fraction
First Zone, Los Angeles and within 50 miles of Los Angeles.....		5c	1c
Second Zone, within 50 to 150 miles.....		5c	1c
Third Zone, within 150 to 300 miles.....		6c	2c
Fourth Zone, within 300 to 600 miles.....		7c	4c
Fifth Zone, within 600 to 1000 miles.....		8c	6c
Sixth Zone, within 1000 to 1400 miles.....		9c	8c
Seventh Zone, within 1400 to 1800 miles.....		11c	10c
Eighth Zone, all over 1800 miles.....		12c	12c

Please do not ask questions on this Order Sheet, but kindly write them and all communications requiring an answer on a separate sheet of paper and inclose with your order. Be sure that your Full Name and Address are on Both Letter and Order.

This space is for remarks about your order.







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Seventh Zone, within 1400 to 1800 miles.....	11c	10c
Eighth Zone, all over 1800 miles.....	12c	12c

Please do not ask questions on this Order Sheet, but kindly write them and all communications requiring an answer on a separate sheet of paper and inclose with your order. Be sure that your Full Name and Address are on Both Letter and Order.

This space is for remarks about your order.



The following is a calendar for the general planting of vegetables, but, owing to the various soils and climatic conditions, this calendar cannot be applied to every locality, even in Southern California, for which this calendar is intended

JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCTOBER	NOVEMBER	DECEMBER
Asparagus Beans Beets Brussels Cabbage Carrots Cauliflower Celery Chicory Corn Salad Cress Egg Plant Horse Kale Kohl Rabi Lettuce Mustard Onions Parsley Peas Peppers Potatoes Rhubarb Salad Spinach Squash Tomato Turnip	Asparagus Beans Beets Brussels Cabbage Carrots Cauliflower Celery Chicory Corn Salad Cress Egg Plant Horse Kale Kohl Rabi Lettuce Mustard Onions Parsley Peas Peppers Potatoes Rhubarb Salad Spinach Squash Tomato Turnip	Artichoke Asparagus Beans Beets Brussels Cabbage Carrots Cauliflower Celery Chicory Corn, Sweet Cress Egg Plant Kale Lettuce Melons, Musk Onions Parsley Peas Peppers Potatoes Rhubarb Salad Spinach Squash Tomato Turnip	Artichoke Asparagus Beans Beets Brussels Cabbage Carrots Cauliflower Celery Chicory Corn, Sweet Cress Egg Plant Kale Lettuce Melons, Musk Onions Parsley Peas Peppers Potatoes Rhubarb Salad Spinach Squash Tomato Turnip	Artichoke Asparagus Beans Beets Brussels Cabbage Carrots Cauliflower Celery Chicory Corn, Sweet Cress Egg Plant Kale Lettuce Melons, Musk Onions Parsley Peas Peppers Potatoes Rhubarb Salad Spinach Squash Tomato Turnip	Artichoke Asparagus Beans Beets Brussels Cabbage Carrots Cauliflower Celery Chicory Corn, Sweet Cress Egg Plant Kale Lettuce Melons, Musk Onions Parsley Peas Peppers Potatoes Rhubarb Salad Spinach Squash Tomato Turnip	Beets Beans Cabbage Carrots Cauliflower Celery Corn, Sweet Kohl Rabi Leek Lettuce Melons, Musks Onions Parsley Peas Peppers Potatoes Pumpkin Rhubarb Spinach Squash Tomatoes Turnip	Artichoke, Beans, Early Brussels Cabbage Cauliflower Celery Chicory Cress Cucumber Egg Plant Garlic Kohl Rabi Leek Lettuce Melons, Musks Onions Parsley Peas Peppers Potatoes Pumpkin Rhubarb Spinach Squash Tomatoes Turnip	Artichoke Beans Brussels Cabbage Carrots Cauliflower Celery Chicory Cress Cucumber Egg Plant Garlic Kohl Rabi Leek Lettuce Melons, Musks Onions Parsley Peas Peppers Potatoes Pumpkin Rhubarb Spinach Squash Tomatoes Turnip	Beets Beans Brussels Cabbage Carrots Cauliflower Celery Chicory Cress Cucumber Egg Plant Garlic Kohl Rabi Leek Lettuce Melons, Musks Onions Parsley Peas Peppers Potatoes Pumpkin Rhubarb Spinach Squash Tomatoes Turnip	Artichoke, Beans Brussels Cabbage Carrots Cauliflower Celery Chicory Cress Cucumber Egg Plant Garlic Kohl Rabi Leek Lettuce Melons, Musks Onions Parsley Peas Peppers Potatoes Pumpkin Rhubarb Spinach Squash Tomatoes Turnip	

\*Plant in frostless sections only  
\*Plant seed in hot bed.  
\*Plant both seed and plants

\*Plant in low, heavy land.  
\*In the Colorado Desert.

### Calendar for Planting Flowers

JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE
<b>Sow Seed</b> Antirrhinum Centaurea Calliopsis Celosia Chrysanthemum Salvia Sweet Peas <b>Transplant</b> Carnation Petunia Pansy Stocks Shasta Daisy Verbena <b>Bulbs</b> Anemones Cannas Callas Dahlia Easter Lilies Gladiolus Narcissus Ranunculus	<b>Sow Seed</b> Antirrhinum Asters Calliopsis Celosia Chrysanthemum Salvia Sweet Peas <b>Transplant</b> Carnation Petunia Pansy Stocks Shasta Daisy Verbena <b>Bulbs</b> Callas Cannas Dahlia Gladiolus Tuberoses	<b>Sow Seed</b> Asters Balsam Centaurea Dianthus Marigold Nasturtium Snap-Dragon Sweet Peas Zinnia <b>Transplant</b> Asters Celosia Centaurea Calliopsis Salvia Shasta Daisy Verbena <b>Bulbs</b> Callas Cannas Dahlia Gladiolus Tuberoses	<b>Sow Seed</b> Ageratum Balsam Cosmos Centaurea Coreopsis Celosia Daisies Nasturtium Poppies Snap-Dragon Zinnia <b>Transplant</b> Asters Antirrhinum Centaurea Calliopsis Chrysanthemum Celosia Salvia <b>Bulbs</b> Amaryllis Cannas Dahlia Gladiolus Tuberoses	<b>Sow Seed</b> Carnation Cosmos Coreopsis Candytuft Centaurea Daisies Digitalis Forget-me-not Gillardia Marigold Nasturtium Phlox Petunia Poppies Salpiglossis Scabiosa <b>Transplant</b> Asters Antirrhinum Balsam Centaurea Dianthus Marigold Snap-Dragon Zinnia <b>Bulbs</b> Amaryllis Cannas Dahlia Gladiolus Tuberoses	<b>Sow Seed</b> Carnation Cosmos Coreopsis Candytuft Cineraria Centaurea Digitalis Daisies Forget-me-not Gillardia Marigold Phlox Petunia Poppies Salpiglossis <b>Transplant</b> Ageratum Balsam Carnation Cosmos Centaurea Coreopsis Celosia Daisies Hollyhock Snap-Dragon Violets Zinnia <b>Bulbs</b> Cannas Gladiolus
JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
<b>Sow Seed</b> Antirrhinum Canterbury Bells Centaurea Cosmos Lobelia Pansies Stocks <b>Transplant</b> Carnation Cosmos Coreopsis Candytuft Centaurea Daisies Digitalis Forget-me-not Gillardia Marigold Phlox Petunia Salpiglossis Scabiosa Violets	<b>Sow Seed</b> Columbine Calendula Canterbury Bells Cosmos Lobelia Pansies Pinks Primula Petunia Verbena <b>Transplant</b> Carnation Cosmos Coreopsis Candytuft Cineraria Centaurea Digitalis Daisies Gillardia Marigold Phlox Petunia Salpiglossis Violets	<b>Sow Seed</b> Carnation Columbine Calendula Candytuft Forget-me-not Pansies Stocks Sweet Peas, Xmas. <b>Transplant</b> Antirrhinum Canterbury Bells Centaurea Cosmos Lobelia Pansies Stocks Violets <b>Bulbs</b> Callas Freesias Iris <b>Climbing Vines</b> Australian Pea Vine Cobea Scandens Kudzu Vine Moon Flower Morning Glory Passion Flower Smilax Virginia Creeper	<b>Sow Seed</b> Coreopsis Centaurea Cineraria Forget-me-not Larkspur Pansies Stocks Sweet Peas <b>Transplant</b> Cineraria Columbine Calendula Lobelia Pansy Pinks Primula Petunia Verbena <b>Bulbs</b> Anemones Callas Easter Lilies Freesias Hyacinths Iris Narcissus Ranunculus Tulip	<b>Sow Seed</b> Carnation Centaurea Larkspur Pansies Sweet Peas Stocks <b>Transplant</b> Carnation Columbine Calendula Forget-me-not Pansies Stocks <b>Bulbs</b> Anemones Callas Easter Lilies Freesias Hyacinths Iris Narcissus Ranunculus Tulips Mignonette may be sown all the year around.	<b>Sow Seed</b> Sweet Peas <b>Transplant</b> Coreopsis Centaurea Cineraria Larkspur Pansies Stocks <b>Bulbs</b> Anemones Callas Cannas Easter Lilies Freesias Hyacinth Iris Narcissus Ranunculus Tulip <b>Border Plants</b> Alyssum Ageratum Begonias Coleus Geranium Shasta Daisy Verbena





WINNIGSTADT  
CABBAGE



SWEET SPANISH ONION



GOLDEN  
CELERY



MONSTROUS  
LIMA  
BEAN



ANAHEIM  
CHILI  
PEPPER



A & M  
FIRST EARLY TOMATO



PIMIENTO  
PEPPER



PEARL  
CAULIFLOWER



LOS ANGELES MARKET LETTUCE



NEW QUEEN ONION



WHITE ROSE  
POTATO